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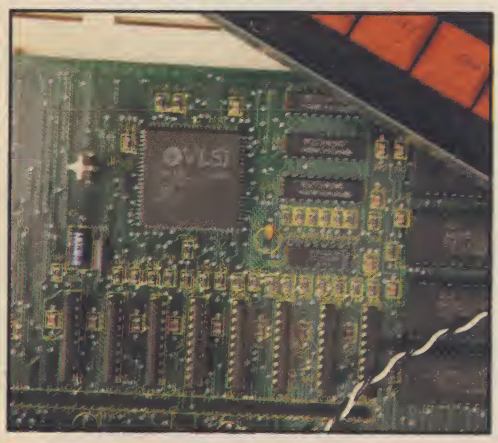
TOP SPEED

ARCHIE WITH ADD-ON LEAVES THE REST STANDING - page 2

- ATARI ST: 100,000 instructions per second
- 25MHZ '386 PC: ~2,000,000 instructions per second
- ARCHIMEDES WITH ALEPH 1 CARD: 10,000,000 instructions per second



PLUS ...

RISC: What it is and how it will change your micro – pages 18, 19

● **Amstrad's autumn plans revealed** – page 3

WIN $1.4 million!

Challenge issued at Computer Olympics — page 21

KEY NOTES

Amiga Music-X takes the musical lead — page 11

ALSO INSIDE THIS WEEK

- The secret of DTP design
- Dozens of games tips
- Technical problems solved
- Liveliest letters pages

• Archie power add-on sets speed records

ARCHIMEDES MOVES INTO THE FAST LANE

An extraordinary new device has been developed which brings hitherto unheard of speeds to home computing.

The as yet unnamed gadget is to be launched within the next few weeks for the Archimedes 4000 range. Effectively it will increase that machine's speed by up to 10 times – accelerating it to rates rivaling £10,000 workstations – it costs £600.

Manufacturer Aleph One is challenging software developers to send in their work for a stopwatch style test. It claims that the gadget will run any and every program between two and 10 times faster. Video and graphics applications (for which the Archie is excellent) will benefit.

Real-time digitising

A machine operating at that speed would be able to handle brilliant animation as well as real time digitising (the ability to feed video images into a digitiser for manipulation in real time). Superfast solid 3D modelling with near instant surface texturing and multiple light source shading would also be at your fingertips.

These effects are currently the domain of "low cost" television post production. It's possible to do these things on Amigas and Archimedes at the moment – but you could have to wait hours for a program to render a complex image. With Aleph One's gadget that time could be cut down to a few minutes.

The simple addition of RAM add on cards could enable users to run lengthy and high resolution 3D animation sequences.

More traditional computer users will be able to sort data more efficiently. This will be especially useful in education where large database applications are common.

The Archie can run at four million instructions per second (MIPS). With the additional board it can run at a blistering 10MIPS. A top end IBM '386 (regarded as *de rigeur* in speedy business computing) runs at around 2MIPS.

• Archimedes: with the Aleph One board it's the speed king

The device has been developed using Acorn's new ARM 3 chip set. Acorn had commissioned VLSI in Canada to develop the chip – in return it is allowed to sell the technology as a product. "We snapped it up when we saw the potential of such an add on card for Archimedes owners," said boss Alex van Someren. "It really takes advantage of the ARM 3 chip which is itself very impressive. I am hoping software publishers will send in their products so we can test just how fast we can run them," he said.

It is widely believed that Acorn will use the ARM chip to upgrade its R140 Unix RISC workstation, already a speedy device.

Aleph One plans to fit the device itself free when it is launched. Enquiries to 0223 811679.

• For a detailed overview of RISC technology turn to page 18.

• Health hazard: computers at work

VDU action needed says labour group

Action is needed to lay down guidelines for the use of computer monitors according to a new survey by the International Labour Organisation.

The Geneva-based group has stated that the monitors are a safety hazard since they effect the eyes, bones and muscles as well as contributing to stress. It has also pointed out more alarming cases of miscarriages amongst computer users. This is not the first time monitors have been linked to poor health.

The group has reckoned that in the United States alone there will be 73 million VDUs in American homes and offices by next year. And within 10 years 60 per cent of the American workforce are expected to own personal computers of their own.

SPACED OUT

If you reckon yourself to be good at computer games the chance has come up to show your skills off on television.

A new TV show is on the hunt for gamers who can handle computer action on a larger scale. The Satellite Game involves youngsters handling a spaceship style simulation which incorporates powerful graphics and computerised action on screen.

The style of game is based on Incentive's excellent Freescape environment which gives the player the ability to roam around in a 3D interactive real time environment.

Broadsword Television (which was responsible for the computer adventure TV Show Knightmare) is making the show for Anglia. Auditions for 11 to 16 year olds will take place later this year. If you're interested write to Broadsword Television Productions, Anglia TV, Anglia House, Norwich NR1 3JG.

• The Satellite Game: TV computing arrives

• PC200 deal • MS/DOS PCW • More PC2000s

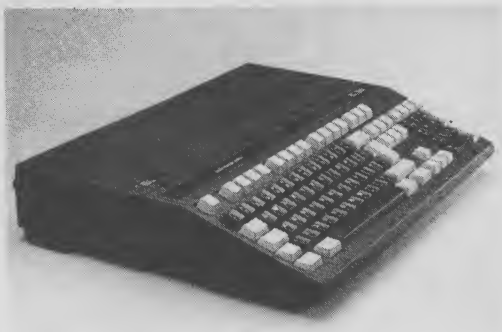
AMSTRAD PLANS AUTUMN PC PUSH

Amstrad watchers are now thrashing around searching for the firm's PC Show plans. As always, the Brentwood Boys are playing their cards close to their chest, but *Express* can reveal some of the plans currently under consideration.

• It is now almost certain that a special deal will be offered to prospective PC200 buyers. Bets are currently being placed on a printer bundle offering first time buyers the complete PC compatible package. There will also be the usual line up of games thrown in for good measure.

If Amstrad does make such a move it is most likely that the DMP3500 printer will be thrown in for smallest possible price.

Neither that model printer nor the PC200 have done particularly well for Amstrad this year – but boss Alan Sugar has already hinted that the PC200 will be pushed to the forefront this season.



• PC200: Relaunch planned

• A pair of new high end PCs will be launched. These will be positioned as bottom of the range machines for its year old PC2000 range. The 1286 and 1386 are simply floppy disk versions of the 2286 and 2386 machines which are now beginning to "take off". Prices are not known as yet.

• According to trade mag *PC Dealer* Amstrad will launch a new PCW machine running MS-DOS. That, says the mag, will be bundled with Locomotive's PC version of *LocoScript* (*Express* 27). Sources are suggesting that the machine will come with a 3.5-inch drive and will cost £399.

However, Amstrad watchers disagree as to the authenticity of such a rumour. One described it as "a bit bonkers really" while another thought it made sense since "they (Amstrad) are running out of three-inch drives" (used for the traditional PCW machines).

Some have suggested that the PCW has seen better days with its archaic CP/M operating system. An MS-DOS model would give it an extra boost.

Meanwhile, Locomotive is running behind schedule on its PC program and, although it will probably be able to show something in September, it will almost certainly not be able to sell any programs. Sugar will not enjoy announcing another machine which is not immediately available.■

Hot chips

A disgruntled Western Digital employee has stolen nearly a million chips from his employer worth some $40 million.

The Paradise VGA graphics chips with the associated video graphics boards are still in circulation and are believed to be "on the grey market". This means they are being legally imported by unofficial distributors and sold through mail order.

Western Digital has warned that none of the chips had gone through its strict quality control procedure and therefore might not be up to scratch.

Three people have been arrested in Irvine, California for the theft and legal proceedings are underway. A Western Digital spokesman commented: "We didn't really want to tell the press about it but we felt we had to warn people that there are chips out there which might not be up to our usual standards. Who knows what's happened to them?"

To avoid hot chips check that your dealer is supplied by an official distributor. Western Digital UK is on 03727 42955.■

Zenith's PC slimline tonic

Following the launch of API's impressive A4 sized PC (*Express* 40) Zenith has announced plans for a notepad sized PC compatible.

The Zenith MiniSport will be only one inch thick and will weigh only six pounds. Zenith hopes to sell nearly 300,000 of the machines worldwide by the end of next year.

Despite its slim size some view the peculiar choice of disk drive as a potential mistake. Zenith has opted for a new standard two inch drive. It will sell the disks (which have a capacity of 720K) for less than £10.

The MS-DOS MiniSport is likely to cost about £1,300 when it arrives this October. Running at 8MHz it will boast two disk drives with 1Mb of RAM. A 2Mb model will cost about £2,000. It also has all the relevant serial ports needed to link up with a PC.

Zenith has taken care to ensure that the screen can be seen outdoors and has developed a special Daybright screen which can be read in any light from complete darkness to bright sunshine.■

Games goodies on show

PC Show organiser Montbuild is promising gamers a "bumper crop" of goodies at next month's annual computer knees up.

The usual noisy batch of this winter's big hits and some of the lesser lights will be there to sample. Despite the annual "we're not going this year 'cos it's too expensive" lark most publishers have decided to splash out and set up in Earls Court.

• Earls Court: Treats all round

New games include Psygnosis' *Ballistix* on the PC as well as a multi-level 3D arcade game *Aquaventurer*. New titles are also expected from Spanish firm Dinamic including *Grand Prix Master*, a new Freddy Hardest game and *After The War*.

Project Xenomorph is Interceptor's new release. Ocean will be showing off *Batman* and *Chase HQ*, Hewson will be parading *Onslaught* and *Scavenger*. For pervies there's also the usual strip poker game – this time from American firm Artworx.

CONTENTS

FEATURES

PITCHED BATTLES 12
If Saturday afternoons aren't enough football for you then take to the computer screens. The best (and worst) soccer games reviewed, plus an interview with the programmer of *Football Director II*

RISC 18
How the new super-fast processors can affect your micro

MUSIC X 11
Could this new Amiga program be the best MIDI package on any machine?

DTP DESIGN 25
New book teaches design by example

REGULARS

COMMENT 4

LETTERS 7
The liveliest letters page in the kingdom

EXPRESS SALES 34
Pick up some great bargains here

TECH TIPS 36,36

READERS' CLASSIFIED 23
Place an ad in *Express* for absolutely nothing! Sell your micro fast

GAMEPLAY 30,31,32
Three pages of the latest games, *F-16 flight simulator* reviewed, First Peek, Mini Reviews, your comments in PlayBack, the hard hitting Street Talk column and dozens and dozens of playing hints and tips

BACK PAGE 38
More program listings with a difference

YOUR MACHINE

Amiga 23
ST 22
PC 24
CPC 25
Spectrum 26
Commodore 64 27
PCW, QL 28
BBC 29
MSX 29
Atari 8-bit 27

COMMENT

MS-DOS PCW

Amstrad's rumoured plans to bring out an MS-DOS PCW will cause much comment this week.

Why didn't Amstrad make the PCW MS DOS in the first place? In 1984 CP/M was cheaper to licence, the Z80 chip was cheaper, and really no-one thought that the PCW was going to sell more than a few dozen thousand, and then to people who were, like their machine, dedicated word processors, uninterested in 5.25-inch compatibility and MS-DOS programs.

Locomotive, which wrote *LocoScript* for the PCW, is known to be working on a PC version of that word processor, in attempt to chase the upgrade market. Many PCW owners, having discovered the delights of word processing with their all-in-one bundle, are getting itchy feet and want to move up to a more powerful machine. The PC, offering that valuable compatibility with typesetters and publishers as well as the staggering range of software available, is ideal for the 'vicars and journalists' that Locomotive reckon make up the typical PCW owners.

There are an estimated 0.75million users of the PCW in Britain and as many again overseas. Most pundits reckon around 10 per cent are thinking of upgrading; the vast majority of those already use *LocoScript*, as it is supplied with the PCWs. If they all bought the program they are familiar with that would make *LocoScript* the most used MS-DOS word processor in the world.

This would be a bright piece of independent marketing by Locomotive. Amstrad however has never been a company to miss an opportunity. Alan Sugar et alia must be looking at that 10 per cent conjecture and translating that into projected profits. An MS-DOS PCW – a PC bundled with LocoScript and a budget printer – could be sold for roughly the same price as a PCW and would have the attraction of that MS-DOS compatibility. Appealing to the home user with big-value bundles would also be much more in line with Amstrad's style than trying to chase high end business markets.

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FEATURES EDITOR	Andy Storer
REVIEWS EDITOR	Rik Haynes
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ART EDITOR	Harriet Athay
ART ASSISTANT	Simon Windsor
PRODUCTION EDITOR	Stuart Anderton
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AD EXECUTIVES	Sarah King, David Lilley
AD TYPESETTING	Terry Turner
PUBLISHER	Greg Ingham

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• CAS' low-cost line up challenges Amstrad prices

PC BARGAINS!

A new range of low cost PCs sourced from the Far East are to be launched at next month's PC Show.

CAS Computer plans to unveil a line up of PCs ranging from low-cost 8088 micros to cheap '386 machines. The entry level XT costs £600 with a mono monitor and a 20 Mb hard disk. That runs at 10MHz with 640K of memory.

Also, a '386SX running at 16MHz is to be offered at the low cost of £1,230 with true '386s weighing in at £1,590. A higher end 25MHz 386 with 20Mb hard disk and mono monitor costs £2,400.

"At prices like these not even Amstrad can touch us," claimed technical director Norman D'Souza. "We think that there will be 50,000 of them bought by the end of the year."■

• New faces: CAS in hand

Blue is the colour

The straightlaced and gigantic IBM has flipped a lid.

Since it found out about the existence of a cheeky New York company calling itself Big Blue things have never been the same. Big Blue has been IBM's nickname for donkeys years but, being a very sober company, it's never really appreciated the moniker.

However, now someone else is using the name IBM has gotten a wee bit prickly. Prickly enough in fact to "ask" Big Blue to stop using the name.

It may have a problem though. The small computer distribution company was well aware that IBM had not registered Big Blue as a trading name when it took it on.■

Micronet rings the changes

British Telecom has bought its partners out of Micronet and its on-line umbrella Telemap.

Telecom will not disclose how much it paid other shareholders EMAP and Bell Canada Enterprises for their collective 60 per cent holding but promises that all services will be expanded.

"We see a lot of potential in Micronet for home users otherwise we wouldn't have bought it," offered BT spokesman Derek Willson. "We'll be announcing changes in the very near future."■

MICRONET (c)
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23 Hamster Prize games, quizzes
24 Treadmill Make new friends, chat
25 Shades Realtime multi user game
26 Bazaar Monday-Friday small ads
27 Starnet Strategy game (CUG)
0 Browse
5 CUG?
9 Mnet

• Micronet: BT buy out

Game on...

Software publishers are promising a veritable tidal wave of Archie games in the near future.

Among them will be *Batman, Colossus Chess* and *Bridge, Steve Davis Snooker, The Untouchables* and *Hard Driving*.■

Popping off

Code Masters, always one for strange publicity stunts, recently cobbled together a bunch of pop music entrepreneurs for a *Rock Star Ate My Hamster* competition.

The game which puts players in charge of pop stars (or as *Manchester City Life* eloquently put it "sorts out the big boys from the bull-shitters") proved to be a bit of a tease for the popsters. Still, the bosses of Happy Mondays, New Order, A Certain Ratio and The Man From Delmonte managed to steer their projects through safely enough.

The game itself has attracted the attention of various institutions such as Radio One and The *Daily Mirror*.■

• Pop Star: national interest

Who needs Michael Fish?

If you're getting bored of tedious TV weather forecasts then maybe it's time to set up your own meteorological station.

British Aerospace has come up with a satellite receiving kit which can be plugged into a PC. The device, called Dartcom, can tap into information beamed down from satellites. The computer will then be able to represent pictures in a variety of formats – even 3D.

The one-metre dish and software costs a hefty £4,997. But comparable systems have hitherto weighed in at more than £20,000.■

SNIPPETS ● SNIPPETS ● SNIPPETS

• This computerisation lark is getting out of hand. Now they're giving cows computers. The latest in farmyard gadgetry is an electronic device strapped to a cow which gives farmers fair warning of when their cattle are "on heat". Apparently, cows walk more when they're feeling frisky – the electronic device simply counts the steps and relays it to a computer...

• Prestel is to replace its old mailbox system with a new improved version this week. Users will be able to send messages of up to five frames in length rather than just the one...

• The West German hackers who were caught spying for the KGB last march have been charged with espionage...

• An independent user group has already been set up for Atari's Portfolio. Subscription is £18 per annum for which members will receive a monthly newsletter and Pocket PC bargains.

SICK JAPANESE RAPE GAME SCRAPPED

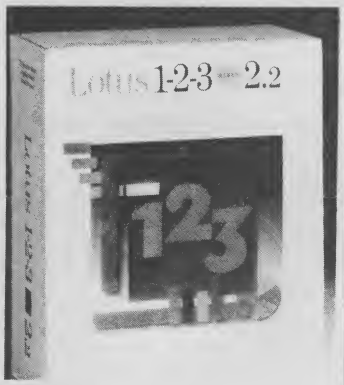
A sick computer game has been withdrawn in Japan after causing storms of protests from local women's groups.

The game, *Rape*, has proved to be enormously successful over the past few months cashing in on the long running Japanese craze for ultra-violent entertainment. *Rape* involved the player chasing a woman through a deserted car park with obvious intent. Extra points could be gained for each piece of clothing torn off the fleeing girl.

Even by Japanese standards this game is considered over the top. A storm of protest has led to the game being pulled.

Popular entertainment in Japan has long shocked Western standards. But many Japanese have argued that while the entertainment is violent the rate of violent crime is comparatively low. However, a string of particularly brutal "copy-cat murders" have caused many people to deliberately distance themselves from that view.

The Guardian's Tokyo correspondent Ken Sullivan told *Express*: "The game has become prominent here because of its success and nature. I was shocked when a Japanese friend said he thought it was a good game. Various women's groups have been angered by it and the publisher has removed it."■



Lotus position

It's here. Instead of reading previews and rumours you can actually go out and buy it.

Lotus 1 2 3 version 2.2 has been shipped ahead of schedule. Users of the world's leading spreadsheet can get their hands on a program which boasts file linking, full support for networks and a plethora of other enhancements.

This version should not be confused with version 3 which, confusingly, was released recently. That is for high end PCs (at least '286 machines). This version is for those of us with only 640K at our disposal. It costs £395 but there's a discount scheme for upgraders. More on 0753 840281.■

Citizen power

Printer manufacturer Citizen is planing to get in on the PC act later this year.

It's expected that a line up of power '286 and '386 machines will be arriving in October in the mid-range price bracket. Citizen hasn't manufactured the PCs – they're French machines manufactured by a small company called Normerel.■

Atari blames Nintendo as profits and sales tumble

• Atari's Sam Trameil

The ugly bitterness between Atari and Nintendo re-emerged last week with Atari boss Sam Tramiel blaming the latter for disappointing profits.

Atari's sales dived by 19 per cent in the latest quarter to $82.7 million. Profits were a pitiful $327,000. Tramiel commented: "Video game sales, primarily in the US market, remained depressed as a result of of the alleged unfair monopolistic practices of an international competitor." Tramiel was clearly referring to Nintendo.

Both are currently embroiled in a complex legal battle concerning Nintendo's policy of signing up exclusive rights to various coin-op games conversions as this means they cannot appear on the Atari games systems, or indeed any other computer at all.■

• *Football Manager*: number three soon

Football Manager World Cup hat trick

Addictive's *Football Manager* series is to receive another addition in the form of *World Cup Football Manager*.

Author Kevin Toms is currently putting together what he describes as "a sort of *Football Manager III*" which should arrive early next year. Its two predecessors have thus far notched up impressive sales of 650,000 through the UK, Europe and Australia.

"We're not calling it *Football Manager III* because it's a real departure from the first two games," explained Toms. "We want to link it as closely as possible to the World Cup in Italy next year."

Details of prices and machine formats are not yet available.■

• For full run down on computer football turn to page 12.

We're still smarter than our computers... just

The world's best computer programs are still no match for human intelligence, if the recent Computer Olympiad is anything to go by.

Although top end chess, draughts, backgammon and Scrabble programs can beat the vast majority of us they're still no match for the grand-masters. Humans beat the best computers in all events (bar one) at last week's Olympiad.

The silicon contingent only won the bridge competition — and the organisers view that as a surprise. Chess expert Bob Wade commented: "Humans have the ability to look over the hill and think what points to get to. We can set ideals and overall strategies. A program starts all over again after each move, it works by brute force and not by ideals."

Nevertheless, organisers are predicting that computers will be able to beat humans within the next few years.■

• Olympiad: programs and people battle it out

Flaunt it!

Broderbund on 010 415 492 3178, have just released a PC poster producer. For under £20, Bannermania allows you to produce large scale 'jag-free' designs in more than a million different combinations of size, style, colour and shape. Designs can be quickly resized to create signs, posters, iron-on T -hirt designs and even bumper stickers.■

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YOU'RE NICKED

I have owned a C64 for about seven years now, and I have made quite a collection of copied programs.

But the time has come to sell my computer. The massive collection of 300 games (copied) makes my computer a good buy at £250, but what if a policeman who wasn't on duty, came to buy my computer? Could he prosecute me for illegal copying? Could he confiscate my programs?

Joe O'Brien, Birmingham, West Midlands

• Yes and yes. If anyone called Bob Hay of FAST comes around asking to buy your C64, sneak out the back door and don't come back.

PD DEBATE PART 4

Most reputable companies make it very clear that PD programs come with no guarantees. The reasoning is that, as the actual software is free - you only pay for media, duplication, advertising and library maintenance costs - you should be prepared to meet up with the occasional duff title. Most companies will replace corrupted or damaged disks free of charge.

Since PD libraries cannot charge for the actual software, profit can only legally be made from the supply of media or other consumables. This is why some libraries do not allow you to supply your own disks. Note that the recent innovation by Budgie Software in 'licenceware' is not regarded as PD, even though PD libraries stock their titles.

The question of cost can be broadly viewed as comprising three parts:

1 The costs of running a library (already mentioned) must be recognised by the duplication charge. A library that advertises in computer magazines, publishes a colour catalogue etc will obviously have to charge more per disk than a smaller, amateur library.

2 It is arguable that a full time library manager is entitled to a salary, funded by the disk price. The legal position - and moral - is not clear on this and I would hesitate to comment on the right-and-wrong of it. Obviously, a library 'employing' three people charges more per disk than a library run on a voluntary basis.

3 There is no reason why a library cannot make a profit both on the sale of duplication media and on the provision of ancillary goods and services. The more profit the library requires - the higher the charges.

Having owned a various number of machines, in my experience the price of a PD disk does not give any indication of the quality of service.

A few examples. PC disks are around £8 each from Seltec but only £1 from SMM. Both disks contain the same programs and both are high-quality, branded media. Both companies offer fast, efficient service. In fact, the major difference between these companies is simply that Seltec produces a glossy colour catalogue and advertises widely.

ST software is currently around £3 a disk, although the £5 disk is still with us. Compare this to a new library, Seven Disk, which charges £1 per disk inclusive. Admittedly, Seven Disk uses unbranded disks and plain paper envelopes, but the library offers to replace damaged or corrupted disks for free. Most people only want a few programs on any given disk, so it seems foolish to pay more for effectively unwanted software. 'You pays your money and you takes your choice'.

Someone from Derby, Derbys

• Thank you Madam, I'm sorry Sir, I'm sure we shall be returning to this subject again, now could we have the next question please, yes you next to the gentleman with the wig and badly fitting suit...

TASTE OF MONEY

I am not surprised most university students do not see computing as an ideal career - for the following reasons:

1 Computing is regularly linked with mathematics and we know from the teacher shortage in mathematics that that is not a popular career choice.

2 Is computing a career anyway? I use a computer virtually every day as do many journalists but few of us would say we had a 'career in computing'. How many electronics engineers who design or repair computers regard themselves as having a career in computing rather than in electronics?

3 Computing is viewed by many as purely a technical subject - useful for turning out technicians to tune and service executives' computers in the same way as car mechanics tune and service their cars.

4 Because of 3, pay for computing staff is abysmally low compared with what is expected them; if it wasn't, all you hacks at *Express* would leave and get better paid jobs in computing - wouldn't you?

John R. Hudson, Almondbury, Huddersfield

• Sure, computing salaries can be low though you're a bit wide of the mark in 4. Virtually all the writing staff at Future could be earning twice as much in programming as they earn now. The reason none of us have left is not money, but the old concept of 'job satisfaction'. It's basically a lot more fun writing about someone's awful piece of programming than having to put it right yourself.

COIN-OP KILLERS

I have just read your article on Nintendo's threat to coin-op licences, and would like to point out that this could turn out to be a blessing in disguise. If a shortage of licences does arise because of Nintendo's greed, software houses would be left with three options to keep their profits up:

a) RAISING PRICES. Not a very good idea. Prices are already high enough, so an increase would be more likely to stop people buying games.

b) 'CLONED GAMES'. Clones could be produced of current successful games such as *R-Type*. These clones would have to be excellent, as people are not likely to buy a game that is similar to 10 others that he/she already has.

c) PRODUCING ORIGINAL GAMES. Money normally spent on licences could be put to good use producing new, original games. These normally sell in large amounts, and, if programmed well, would give software houses a good return. Any licences that passed through Nintendo's net could then be converted well, rather than the rush-jobs they currently seem to be.

Bryan Morton, Bangor, N Ireland

• We're all for the second and third options here, since coin-op conversions never match up to their originals in any case. To save us from having to comment on your points in more detail, Neil Warwick tuned in with a little telepathy to supply the following...

I'm writing to put the record straight, regarding the cover story in issue 39 - no coin op conversions on home computers. As soon as I saw this I let out a sigh of relief, and after ringing around a few computer-owning friends, we were all of the same opinion - will it be a bad thing for computer gamers? We think not, as an ST owner I am blessed with having a good selection of excellent games to choose from, none of which would be appropriate for use on an arcade machine.

If software houses are afraid of falling sales, then maybe they should try to dream up some original software which is so good and addictive (*Battlechess, Populous, Falcon, Dungeonmaster, Bloodwych* etc) that they sell in great numbers, and stop relying on big arcade companies to give them ideas.

I'm sure it would benefit everybody in the long run. The customer gets a better product, the programmers get more satisfaction out of producing their own work rather then copying someone else's, and the software houses get good sales and a better reputation for producing quality software.

So, on behalf of all computer gamers across the land I say "Nintendo, come on down, the time is right." Then at last, maybe we can get some good, original, and innovative games. And anyone wanting to play arcade games can either go to the arcade, or buy themselves a Nintendo console!

Neil Warwick, Wokingham, Berks

MORE OUTRO, LESS INTRO

A deadly new kind of threat has reared its ugly head, and I'm writing in the hope

MAIL MOANS

May I ask all of you who have received a piece of mail ordered software outside of the 'guaranteed' delivery time to raise your right hand. Now, keep your hand in the air if you received any notification of the late delivery. Any apology? An explanation?

It has probably happened to us all along with the other hiccoughs associated with the mail order companies. Nothing for weeks, then you receive two of the same item or even the wrong one etc. I received two copies of Operation Wolf from Castle over four weeks late and CCI sent me three (yes, three) covers for my Amiga when I only wanted one.

Two notable exceptions are 17 Bit software which you have probably heard of and S&T computing which you probably haven't. I placed an order with the latter for Lattice C V5.0 at a remarkable 40% of the list price - a saving of £100. Just over a week later, I received a letter, apologising for the delay in despatching the software, a letter written and signed by the proprietor Diane McCarten. If this wasn't enough, she refused to wait for the unacceptable lead time offered by her suppliers and invested in trading direct with the manufacturer, Lattice Inc. As a result of this, she has become one of their main UK Distributors - good luck to her.

In an attempt to convey my gratitude, I have written this letter in the hope that you could inform disillusioned mail order users that there are still some people in software city who do care about their customers and, in this case, are prepared to go to great lengths to serve their customers.

Thank you for your time and please print this it isn't an advert!

Bill Turner, Bristol, Avon

• Nice to get some positive fedback about mail order companies for a change.

Crackerjack pencils to both firms involved and let's hope we get more and more letters like this, as there are still the odd few cowboys about.

MYSTERY PRIZE WINNER

EXPRESS MAIL

Dear Reader

More pages packed with comment, complaint, commendations and controversy – and Rob Ainsley's replies. Make your voice heard in computing's liveliest letters page! Send your contributions to:

Express Mail, 4 Queen Street, Bath, Avon BA1 1EJ

PS. Sorry, we just don't have the time to give personal replies, whether you include an sae or not. We're too busy putting Express together!

of killing it dead before it infects the whole games world. "Ahh no, not another thing on viruses!" I hear you whine. But no, this threat is far more deadly, for rather than destroying your disks, it leaves you helplessly paralysed in front of your monitor for minutes on end. Yup, I'm talking about the Intro, (*Introductus Longanboringum* to use its Latin name). After waiting scant milliseconds for our megagames to load, why oh why, are we increasingly forced to sit through hours of intro screens, clever digitised animations, score tables, credits, etc?

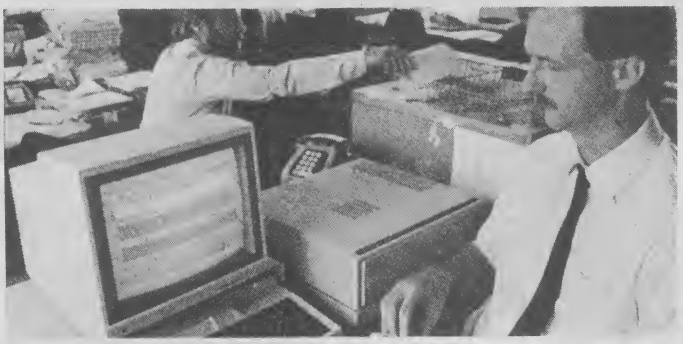
Cases in point; *Running Man, Obliterator*, and I think I could have watched the film before *Running Man*'s intro finishes! I can foresee a time when you spend longer watching the intro, than you do actually playing the game.

Even that might not be too bad if, when you finish the games, you are rewarded with more than a pathetic 'Well Done' message, (usually in standard font!) Are you listening *Millenium 2.2* programmers?

As far as I'm concerned, the intro is a valid, but separate art form in its own right, but if I want art, I'll go to a gallery or buy some PD disks. When I fork out £25 of my (fairly) hard-earned cash, I want to start playing as quickly as possible, if not sooner!

So, software houses, give us what we pay for instead of padding your games with lengthy and usually unwanted intros, that cost our money, and your games writing time to program.
Mat Broomfield, Basildon, Essex

PS A subscription makes a great mystery prize.



• The Beeb – the only one we're missing out on

• We couldn't agree more. Perhaps the worst perpetrator of the over-long intro is Psygnosis... but to balance that they consistently produce high-quality games. Most programmers worth their salt should let you cut out of the intro by pressing Fire or Space

ONE MAN'S BALANCE ...

As a comment on your reply to the letter regarding the types of computers held by *Computer Express* staff (issue 39), would it not be reasonable to expect that a general magazine such as yourself be equipped with a full range of computers between you? It would not cost an excessive amount compared with running the magazine and surely must be obligatory to ensure a balanced content.

You need to own and use a computer and be in proper contact with its software base via specialist magazines to learn its strengths and weaknesses. This cannot be reflected in one off promotional freebie reviews, which means that your features do not have the same excellence as the news articles.

As an example, a month or two ago you did a review of digitisers which covered the normal selection of computers (ST, Amiga etc.) but not the Archimedes or BBC. Just a quick read through the specialist magazines for these would have revealed two digitisers by Watford Electronics. These have both had excellent reviews in the past. To add as a footnote that you did not know of any digitisers for other computers, but would be willing to do a follow up review if told of any, smacks of a lack of general background knowledge of the computer scene. This perhaps goes some way towards confirming any accusation of bias.
S Ware, Macclesfield, Cheshire

• Since between us we own PCs, Amigas, STs, PCWs, C64s, Atari eight-bits, use Macs at work and have an Archie and Speccy here too it would seem we're only missing out on Beebs. And frankly we don't think we're missing much. Maybe we should purchase a N-Cube or a couple of Crays to get the balance right. In the meantime, we're quite content to exist side by side with specialist magazines since our machine specific columns tend to care of the finer details.

WHICH BRINGS US NICELY ONTO...

In your laptop PC review, you state that 7.2 pounds equals 950 grams. Not even close. You must have worked out the conversion on a Mac. The correct figure is 3269 grams, over three kilos.
Iolo Davidson, Tetbury, Glos

Q. What's 2,319 grams between friends ?
A. Better not answer that

BORLAND APPROVED

I am writing to inform you of the founding of the British All Turbo Pascal Users Group. The group is Borland approved and is for programmers who use Turbo Pascal, versions 3 to 5.5.

Membership of the group costs £7.50 per year and members get four copies of a journal per year. New members get a disk of public domain and BATPUG written software.

The journal will be carrying articles on all aspects of Turbo Pascal, for all types, from beginners to experts. Object orientated programming will also be featured, now that version 5.5 is upon us.

Anyone who wishes to join, or find out more can apply to BATPUG, 12 Clegg Avenue, Cleveleys, Blackpool FY5 1BJ
David Bolton (Chairman and Journal Editor), Blackpool, Lancs

MORE TOP TEN TEARS

MESDOS

1 Screens resembling TV lacking vertical hold. (Optrex, please!)
2 Copy-protected software (fork out each time the 'master' becomes unreadable - not likely!)
3 PCs with less than 640K. (Amstrad should have learnt the lesson by now!)
4 Inflated price of most commercial PC software - compare with same product on an eight-bit machine (a rip off! This is the true meaning of "corporate pricing structure").
5 Lack of essential utilities supplied with MS-DOS (we are up to version 4X! Compare with CP/M plus).
6 Software only available on 5.25-inch disks.
7 Application programs which require 384K to load, or need either EMS or LIM to work efficiently.
8 CGA in graphics mode (graphics - ha!)
9 Incorrect or unspecific error messages from MS-DOS (more haunting than any ghost!)
10 Device drivers (sure to breach memory limits by 1 or 2K).
Mr Arthur Hicks, Bristol, Avon

• Optrex is one of those useful utilities that some enterprising company could include in future low-cost PC bundles

SPECCY SLAGS

1 Colour clash on the Speccy.
2 Speccy 48K sound chip.
3 Beep commands.
4 Loading tape software.
5 People who slag off the Speccy (it's been around longer than the 16 bits, costs less, and has a larger user base).
6 Magazines that give away a 'free' cover mounted tape, charge 50 pence more than the magazine usually costs and don't supply a box.
7 People who moan about the price of 16-bit software when most people can't even afford the 16-bit computers.
9 Playing games on a B/W TV.
10 Shoot-'em-ups which send you back to the start of the level when you've nearly finished it and die.
Ian Tovers (Spectrum 48K owner), Birmingham, West Midlands

• Point 5 is the real clincher here. Somehow points 1 to 4 take on a new significance.

AND JUST FOR A CHANGE

Over the past four or so issues various people have written in with their "10 most hated things about computing". Well, I must admit I'm a touch upset with your readers for not looking on the brighter side of things. Therefore, I'm kicking off with my top 10 of the most mega brilliant things connected with computing:
1 The hip and groovy write protect tab: - without which the viruses would 'eat' all 3.5-inch disk data.
2 MP Emma Nicholson for providing us computer users with a good laugh!
3 Good old Dave Braben for *Virus, Elite* etc.
4 *New Computer Express* (can I have my letter printed now?!)
5 Database Orgs for bringing us the 'shows'.
6 The joystick (ever tried playing *IK+* on mouse? You can't!)
7 The ST and Amiga.
8 The Bitmap Bros (Greg Williamson really is ignorant in 'playback').
9 The Amiga sound and graphics chips (Paula or is it Uncle Gilbert?)
10 The mouse that never breaks (all of one of them!)

Also, I have noticed that you (being the editor of this great mag) have suddenly changed taste in computers (ie I believe you now prefer the Amiga to the ST) judging to the replies to some of your letters! Is this true?
Rob Chapman, Kenilworth, Warks
PS Can you really get a Cray emulator for my ZX81 laptop?

• Actually, Rob's on his hols this week, so we can't answer for his preferences vis a vis the Amiga and ST. But just to say we've heard him toying with the idea of buying an ST even though he thinks the Amiga is coming out tops in terms of sales. And.. er.. yes.. you can get a Cray emulator for your ZX81 - try Megasoft World Holdings of Grimsby who advertised in Express 21

Phone Snippets

GLASWEGIAN KISSES

Anonymous, friendly souls from Scotland's fair city...

1 You had an article about us in your magazine if ya dunna quit all yer hassle you're gonna start turning people away and we gonna come down and break yer ***** legs.. Who the **** do ya think you are? We're providing a service.**

2. There's nothing clandestine about the service - we're providing what people want - it's the market forces of supply and demand - there's nothing wrong with it.... now just pack it in - else we'll close the store down and put a virus on yer network and if ya dunna stop it we're gonna ** yers.**
• Maybe you'd like to write and address your problems to our Amiga Blit columnist - he's a fully-fledged psycho-nutter ninja.

3 I went to Glasgow to the Barrowlands on Saturday- I want to thank you for your article - I picked up *New Zealand Story* for the Atari ST for £2 - yes £2!
• Glad we could be of assistance.You win this week's prize jerk award . And no we won't be giving away return fares to Glasgow as a mystery prize in future.

520ST-FM SUPER PACK

1Mb DISK DRIVE
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Ranarama	Hewson Consultants	£19.95
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Test Drive	Electronic Arts	£24.95
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Xenon	Melbourne House	£19.95
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The Atari Super Pack is ideal for you if you want to get off to a flying start with the best in entertainment software. The Pack includes a 520ST-FM with ½Mb RAM, a built-in 1Mb disk drive, over £450 of top games and a joystick. If you buy the Super Pack at Silica Shop, we will add our own ST Starter Kit (worth over £200), Free Of Charge. Return the coupon for details.

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NOW WITH TV MODULATOR

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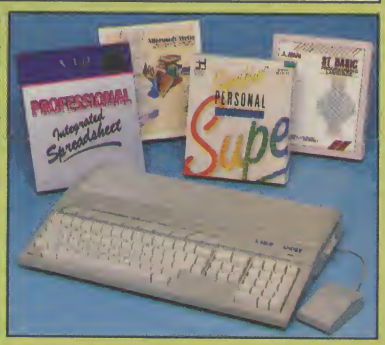

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Desktop Publishing (DTP) is one of the fastest growing applications for personal computers. We are pleased to announce a powerful low cost package for the Atari ST called PageStream. PageStream costs only £149 (+VAT=£171.35) and, because it works with an Atari 1040ST and a Seikosha SP-180AI printer, you can be up and running with a complete system for less than £1000. Some of the features of PageStream are listed to the right. If you would like further information on this program, complete and return the coupon below, ticking the 'DTP' box in the corner.

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LONDON **01-580 4000**
52 Tottenham Court Road, London, W1P 0BA
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ATARI ST

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All prices correct at the time of going to press. E&OE.

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The value for money offered by the Atari ST range is reflected in the Explorer Pack featuring the 520ST-FM computer with 512K RAM. The 520ST-FM computer now comes with a built-in 1 Mb double sided disk drive as well as a free mouse controller and a built-in TV modulator. The new 520ST-FM Explorer Pack includes the 520ST-FM computer, the arcade game Ranarama, a tutorial program and some useful desktop accessories. In addition, if you buy the Explorer Pack from Silica, we will give you the Silica ST Starter Kit worth over £200, FREE OF CHARGE. Return the coupon for details of our Starter Kit and of the full ST range.

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MARK OF X-CELLENCE

The Amiga has been slow to assert itself as a major force within the thriving musical micro market, but with the release of MicroIllusion's long awaited Music-X, things look set to change. Barry Whitehouse checks it out

MUSIC-X

• £229
• Amiga, MIDI interface required
• MicroIllusions Europe Ltd (0480 496497)

Within the few weeks that *Music-X* has been available, it has captured the imagination of musicians and computer users alike. Already several big names in the music industry have jumped on the *Music-X* bandwagon and most surprising of all, both Roland and Yamaha have expressed considerable interest in the program. What does this music package offer that could possibly cause such excitement?

At the simplest level, *Music-X* could be described as a MIDI sequencer, but it goes far beyond this relatively basic function. MicroIllusions itself describes *Music-X* as a 'multi-tasking music workstation', which is a far better description of the program's capabilities.

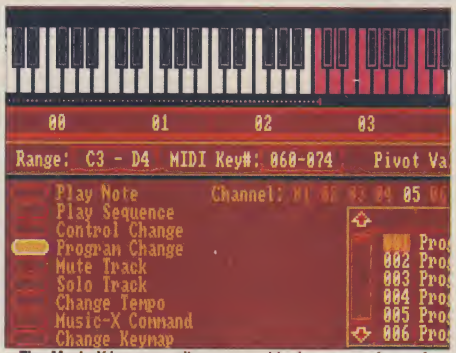
The program combines a powerful MIDI sequencer, sampled sound player, MIDI patchbay, voice librarian and synth patch editors all within one program. The action doesn't stop here however, as *Music-X* is written in such a way to allow the easy addition of future add-ons to further extend its already impressive arsenal of musical tools. Already, MicroIllusions has started work on several major add-ons of which details are yet to be made available.

MUSIC-X Perf: FaeryTaleThemes.Perf
SEQUENCER
BEGIN END CUE1 CUE2 CUE3 CUE4 SET
PAUSE PLAY RECORD STOP
Clock: 0005.02.043
00:00:03.20
5025 Events
STORE
EDIT
DELETE
PREVIEW
001 3732 25 1-4 C-T Rel Game Introduction Ex1 00000
002 5312 28 1-4 C-T Rel Daytime Travel Theme Ex1 Off
003 5092 32 1-4 C-T Rel Nighttime Travel Theme Ex1 Off
Encounter Theme Ex1 Off
005 5432 26 1-4 C-T Rel Indoor Theme Ex1 Off
006 3172 18 1-4 C-T Rel Finale Ex1 Off

• You certainly won't run out of tracks with *Music-X* – you've 250 of them to choose from

How many tracks?

When the program first loads, it automatically defaults to the sequencer page. From first impressions, the sequencer looks pretty run of the mill with the now standard tape transport controls being the main method of operation. The sequencer offers a full 250 tracks of realtime recording, of which upto 20 can be played at any one time. Any of the 250 tracks can be triggered from within other tracks in real time and so you certainly won't feel held back by this all important front end.



• The *Music-X* keymap editor page adds the power of a professional mother keyboard to even the simplest of home synths

One very powerful feature worth mentioning is the ability to record multiple MIDI channels simultaneously which is truly a godsend for those of us that work with more than one keyboard. Once a multi-channel sequence has been recorded, individual channels can be easily extracted and then placed into another track.

Sequence Editing

Very few of us can pretend to be true masters of the keyboard, and so a program's editing functions are all important to remidy those little mistakes that always manage to creep in. Thankfully, *Music-X* includes not one, but two different methods of track editing. For those of you used to more conventional sequencers, *Music-X* includes a powerful MIDI data stream editor that allows precise tweaking of any track.

As well as the text based MIDI stream editor, *Music-X* also includes a separate bar editor for those of you with a taste for pretty graphics. This bar editor is very much the main work horse of *Music-X* as it is used to not only edit sequences, but to also construct songs by layering tracks into a separate control sequence.

Filters and Patches

A package consisting of just the *Music-X* sequencer and its two editors would be a formidable combination, but MicroIllusions went a lot further. For starters, there's a complete MIDI patchbay that allows you to filter and re-route incoming MIDI data to your heart's content.

Linked into the MIDI filters page is a unique keymap editor which allows you to assign different functions to any of the keys on your synth's keyboard. Using it, you can even control many of the operations of the sequencer by assigning *Music-X* commands to individual keys. Like most of *Music-X*, the practical possibilities of this page are endless.

If your MIDI equipment setup is a little sparse, then you'll appreciate the inclusion of an Amiga samples page that allows you to load upto 16 samples into memory and play upto four at any one time. In true sampler style, *Music-X* also allows you to apply a volume envelope to any sample, therefore simulating effects such as reverb and delay.

The real surprise comes when you jump into the librarian page. Using user definable 'protocols', *Music-X* allow you to store and edit system exclusive data from just about any synth. D50, DX21/100 and TX81Z owners will be particularly happy as *Music-X* also includes complete patch editors for these synths. For those of you with other makes of synth, MicroIllusions is already working on a complete range of add-on patch editors of which the first to arrive will be for the Korg M1 synth and the popular Roland D110 sound module. How much for these editors? How does £10 sound to you?

Conclusion

Many of the functions of *Music-X* are already available within other programs, but *Music-X* is the first to ever bring all these tools together into a truely intuitive workstation environment. With the release of *Music-X*, the Amiga has leapfrogged all comparable machines to become one of the most cost effective and powerful musical micros currently available – I for one have already binned *Pro-24* and *KCS*!

KEEPING IN TIME

Music-X includes not one, but two separate clocks. The first is the standard relative musical time of 'beats' and 'bars' and the second, the more natural hours, minutes and seconds. The reason for the inclusion of these two separate timing systems is that *Music-X* can use five different methods of external synchronisation, including full SMPTE time code locking when used with MicroIllusion's own £100 add-on SMPTE unit.

SMPTE time code is a standardised method of describing time in terms of hours, minutes, seconds and picture frames, which was devised for use within the film and television industries. Any sequencer that wishes to be considered for serious video work therefore has to offer SMPTE support before it is even put on the shortlist.

Other synchronising methods supported include MIDI clocks, video clock and MIDI's answer to SMPTE, MIDI Time Code (MTC).

HIGHLIGHTS

- Very powerful and easy to use
- Modular design allows for expandibility
- Extensive editing facilities
- Includes librarian/free patch editors
- Very low price for what it offers

DRAWBACKS

- Lacks score editing facilities
- Notes can sometimes hang when playing complex sequences

ABSOLUTELY FOOTBA

Here it is again, eleven months and one week of pure soccer culminating in the World Cup final in Italy. But, Colin Campbell asks, what are we going to do when there's no footie on the telly? Obvious really – boot up the soccer software...

• Soccer games are the most popular computer simulation , but choose carefully because some are real lemons

Most of us begrudgingly have to admit that banging away a glorious championship winner against Liverpool in the last nanosecond of a gruelling season isn't in our stars.

Not for us the pleasure of running out onto the "sacred" turf at Wembley or lifting the World Cup to a gasping planet of football-potty television owners.

But we can join in the fun from the safety of the telly and the beloved micro. When the commentator has told us to join him next week and the credits have rolled it's time to eagerly jump to the computer and select the appropriate piece of software.

There are more football computer games than any other sporting genre. Hundreds in fact, ranging from extremely dodgy budget efforts to glossy, superfast, state of the art extravaganzas. Let's face it, computer football players are spoiled for choice.

Quantity we may have but, unfortunately, quality is not so evident. There are a handful of games (see The Trophy Cupboard) which come close the capturing the elegance, fury and excitement of top class soccer.

Bang in a 30-yarder in *Kick Off* and feel like Pele. Beat your best mate at *Matchday II* and be Bryan Robson. Out manoeuvre the computer in the purchase of the memory bank's hottest player and you're the micro equivalent of Johann Cruyff.

Computer football is not only a lot of fun, it's also the most aspirational simulation around.

We're coming tantalisingly close to that real match excitement — but the programmers and the players all know that the ultimate goal is still beyond us. That somewhere in the future is the soccer game which really will make you switch off the FA Cup final and start playing.

We've been playing football off the pitch since the days of Accrington Stanley. Whether it be collecting pictures in a cigarette pack, stickers with a bubble gum or (for the rich kids) flicking Subbuteo men all over the dining room table.

When *Pong* bounced onto the scene it didn't take the purveyors long to see the advantages of changing the format around a bit so you've got a stick up front, one in goal and someone to play against. OK, it was hard to imagine that electro white line as Diego Maradona but it was a good laugh and took some mastering.

And ever since, our dear programmers have been striving to make the pass accurate, the ball look plausible, the tackle make a crunch. There are still programmers and publishers who think it's fair game to have footballers strolling into the goal with the ball stuck obstinately on their left foot. We know different.

We want all the pinpoint accuracy, thrills and fun of football. It's the ultimate goal of computer footballers, publishers and programmers. Go to it.

THE RED CARDS

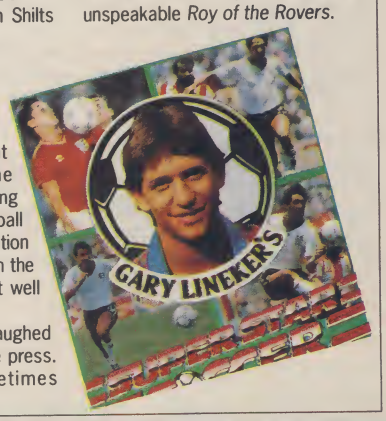
Some of the worst games to invade the computer pitch.

WORLD CUP CARNIVAL (US Gold)
Warning. Do not go near this game. It's without doubt the biggest lost opportunity in football gaming. While the lads were stuffing the likes of Poland and Paraguay in '86 (and I still maintain that if it wasn't for Argentina's woodwork getting in the way of Gary Lineker we could have lifted the trophy) Gold was launching a two-year-old game with some fancy posters and the like. It flopped.

PETER SHILTON'S HANDBALL MARADONA (Grand Slam)
Even if the ref wasn't watching the demonic little man Grand Slam certainly was. It saw a great way of gaining column inches from hacks, threw a spurious game together, and made a few bob out of a truly awful piece of programming. No, not even Shilts could have saved that one.

GARY LINEKER'S SUPERSTAR SOCCER (Gremlin)
Poor Gremlin made a right hash of this. It made the unforgivable mistake of asking Americans to write a football game. It's obvious that a nation which can't get to grips with the offside rule should be kept well away from our great sport.

When it appeared it was laughed out of sight by much of the press. The games were sometimes played across three halves and sometimes across two. Extra time was called overtime. Players could also enjoy the novel experience of playing with an invisible ball. Gremlin is also responsible for the unspeakable *Roy of the Rovers*.



THE TEAM LINES UP

Here they are. The living legends. The great line up of men who have not only appeared inside football boots but also inside computers. Brazil beware – it's the Express international team (and jolly good they are too).

1. Peter Shilton
Southampton, England and Grand Slam's *Hand Ball Maradona*. Good goalie, terrible game.

2. Emlyn Hughes
Squeaky clean skillster of Liverpool and England. A "great little player" (International Soccer).

3. Roy Race
Truly heroic Melchester Rovers and England skipper. But the game (*Roy of the Rovers*) wasn't much cop.

4. Brian Clough
Middlesbrough and England grafter. CDS's computer come board game (*Football Fortunes*) done him proud.

5. Jimmy Greaves
Spurs and England. What a player. Grand Slam's quiz game which pairs him with Ian "Saint" John is on its way

6. Glen Hoddle
He scored some scorchers for Spurs and England but not for Amsoft (*Soccer*). Not the best of games.

LL BONKERS

THE TROPHY CUPBOARD

Here are the *Express* winners of computer football's greatest prizes. These are the six games which, over the past few years, have proved to be the best and most enduring soccer simulations available. There are nearly a squillion footie games out there but this half dozen set the pace, leaving scrawny imitations in the dressing room.

KICK OFF (Anco)

Without doubt the most together game of its generation. Most people were waiting for Microprose *Soccer* to clean up on the 16-bit front with its "state of the art" graphics. But *Kick Off* nipped in with a completely unexpected style. Even soccer programmers admit Dino Dini's effort is years ahead of its time.

Essentially, *Kick Off* nicked the overhead view game (beloved of arcade footballers) and added an ingredient missing even from the impressive Microprose *Soccer* – speed. It's difficult, contrary, downright annoying and takes talent and perseverance to master. And it's possibly the only computer game to come close to real football excitement.

For its universal appeal, dynamic unpredictability and emotion laden gameplay *Kick Off* walks away with the World Cup.

EMLYN HUGHES INTERNATIONAL SOCCER (Audiogenic)

Described as *Matchday* and *Football Manager* rolled into one this is the current fave among eight-bit soccerites.

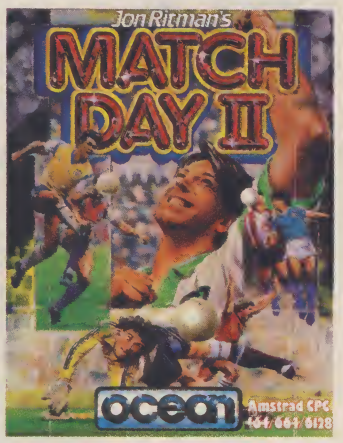
Despite a number of pathetic attempts to mix strategy and action previously Hughes was the first to get it right. On the action front cursor control is a delight and the programmers certainly wrung the most out of the humble Speccy, CPC and C64.

The strategy may not be as fulfilling as it might but it's still well worth dabbling in boasting a delightfully simple interface. With 10 levels of difficulty and a hook which will have you stuck for months. *Hughes* grabs the European Cup.

MATCHDAY II (Ocean)

When it comes to the *Matchday* series the keyword is fun. It sat at the top of eight-bit football for ages and ages as gamers struggled to outplay each other. Even if the graphics look decidedly dodgy now it's still exciting to have a micro kick about.

Jon Ritman's *Matchday II* took the standard sideways view but managed what so many games failed. Making the players go where you want them and getting ball realism has always been the most difficult job for footie programmers. Some didn't get it right and paid the price.



Matchday II, even after all this time, is full of quirks and surprises and no matter how advanced today's games are it's still a pleasure to boot up. As such it takes the FA Cup.

FOOTBALL MANAGER (Addictive)

Possibly the most enduring footie game ever – the original in football management. Some called it a dreadful bore with its repetitive nature and crap graphics.

But it dragged a generation from the streets in an attempt to get Southend FC to the top of the First Division. Brummie programmer Kevin Toms made a mint out of it and the sequel *Football Manager II*.

It's major fault was that it spawned a billion and one football management games each one progressively worse than the other. Only one or two beat Toms' creation. The perennial plodder which everyone looks to takes the League Championship.

INTERNATIONAL SOCCER (Commodore)

When Commodore launched a 64 cartridge called *International Soccer* Swansea were still in the First Division.

It spent the next few years as the standard in computer games since it was the first to implement 3D players and managed to get the bounce of the ball correct (along with a neat 'boing' noise effect). Certain 16-bit soccer programmers should have a go at it every now and again.

Nostalgic soccer fans still sigh whimsically about it before they wax lyrical about the good old days. CRL bought out a cassette version which also did well for itself although other eight-bit versions (courtesy of Elite) weren't quite so impressive. It may be old but it's worth a burst once a year. Naturally, it wins The Charity Shield.

FOOTBALL DIRECTOR II (D&H Games)

For anyone who really wants to manage a football team this is a must. It's a bumper bag of soccer leadership with every detail programmer Tony Huggard could cram in – every cup competition, crisis and concession a football manager could come across. It's also extremely difficult. Eager players set off with years of computer management behind them only to find themselves outclassed.

It's tight and extremely strategic – an example of hard work and football knowledge rather than flair – winner of The League Cup. ➤

THE FORTHCOMING FIXTURES

Manchester United	Krysalis	December	All formats
Paul Gascoigne...	Empire	October	All formats (exc PC)
Football Director 3	D&H Games	January	ST, Amiga
Saint and Greavsie	Grand Slam	September	All formats
Liverpool...	Grand Slam	December	All formats
Player Manager	Anco	November	ST, Amiga
Footballer of the Year 2	Gremlin	September	ST, Sp, Am, 64
Intern'l Football Manager	Addictive	January	All formats

7. Peter Beardsley
The geordie who went to Liverpool also made for a cracking game (International Soccer) from Grand Slam.

8. Gary Lineker
Prolific England scorer who's done a lot for Gremlin. To date the firm has launched three Lineker games.

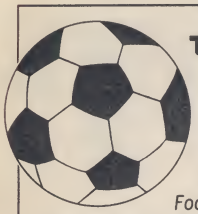
9. Diego Maradona
The brilliant Argentinian was wasted on Peter Shilton's *Handball* game from Grand Slam.

10. Kenny Dalglish
The only Scot in the team presided over a pretty standard management game from Cognito.

11. Paul Gascoigne
England's greatest hope will soon be appearing on a game from Empire.

12. Jack Charlton (sub)
The maestro of Man Utd appeared in the unforgettable *Jack Charlton's Fishing*

13. Ian Botham (sub)
Ian Botham's Cricket. (He used to play for Scunthorpe FC)



THE MASTER STRATEGIST

Five years ago Tony Huggard and his pal John De Salis were attempting to get their respective teams (West Ham and Leeds) to *Football Manager* glory via a trusted Speccy. They bought this player, sold that and, well, it was all a bit of a cinch.

Unemployed and stuck in the dismal "new town" of Stevenage, Huggard set out to write a new football strategy game. He had nothing more than an elementary understanding of BASIC and a lifelong love of soccer; De Salis had a complex insight into the world of football and lots of that stuff which makes money — ideas.

After 18 months *Football Director* appeared boasting more features than any other soccer game. Gaming purists sniffed at the very thought of a game which had no purpose other than the management of a football club's finances, players, property... everything.

But *Football Director* became the standard in top-level footie strategy games. It made its way onto the C64 and CPC and then, through *Football Director II*, onto the 16-bit machines.

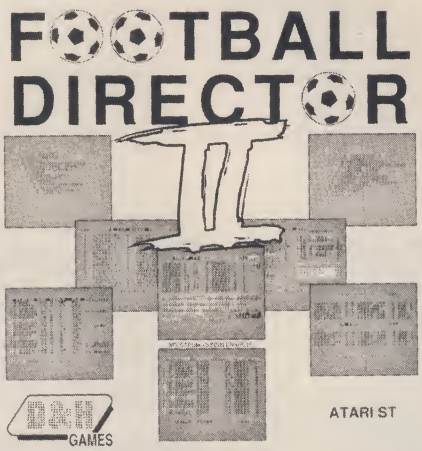
The firm, D&H Games, is now doing brilliantly with a line up of football and other sports strategy games. But how, *Express* asked, did they do it and what is the attraction with these strategy games? Huggard answered (De Salis was "stuck in Weymouth").

So how does a game player become the boss of a thriving soccer strategy firm?

"All we had was a Speccy when we started. Once the game was finished we placed an eighth page ad in *Your Sinclair* and borrowed £750 off John's mum. He took care of the duplication and packaging and, by being careful, we got things started."

How did you come up with the ideas for *Football Director* and its sequels?

"With the first game we just wanted to put in features which were missing from *Football Manager*. We felt



there should be more depth. Now we listen to what the players have to say. People call in and ask for Scottish leagues or for key commands instead of icons and that's what we'll give them in the next game."

Which is?

"*Football Director III*. We want to get the most out of the 16-bit machines. I'm not sure if we'll put it out on the Speccy or Amstrad [CPC]. We'll have to decide if it's feasible to go ahead with that."

What do you think of all the footie games around?

"When we released *FD II* there was only really *Football Manager II*. I don't think that's a very good game. It's really for the kids whereas we're for the 25-plus age group. There wasn't really anything for them. The trouble with *Football Manager* is that it goes round in a circle. You're restricted by the game."

Why are football strategy games (including *FMII*) so popular?

"It's aspirational. Football fans say things like "I could do a better job than him" when they're on the terraces. They want to have a go at being Brian Clough. They go to the trouble of keying in all their favourite players names and become the manager."

But isn't it just a load of mucking about with figures and coming up with the best combination?

"People enjoy using their brains. We've been playing chess for centuries. It's just a variant on that. You're right in a way. This is where a lot of football games fail. They don't offer anything different in the gameplay. It's no good if the same thing happens every week."

How do you answer those critics who regard strategy games as being cranky and tedious?

"People spend hours on these games. I know of users who have nothing but football computer games and playing them is their main hobby. They collect every one and play until they've won because it's good fun and it means you're using your brain and making decisions."

Aren't you sick and tired of football?

"No. I don't go and see matches every week but we get the TV in when England are playing and I keep track of what's going on. I was watching Arsenal play Independiente last night and....

• Huggard: Strategy is the key

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• Two tickets to a home international of your choice (i.e England, Scotland, Wales or Northern Ireland playing at home).
• A full strip of any English or Scottish league football team (shirt, shorts and socks).

The next 10 correct entries pulled out will walk away with a copy of *Football Director* or *Football Director II* (depending on which micro you own). What a result...

Who plays where?

Here's what's required. Five teams have been playing away and want to get home. However, due to a bit of a mess up they've ended up at the wrong grounds. All you have to do is match the team to the home ground. For instance, if you think Liverpool FC plays at Celtic Park write A2 and so on. We also want to hear what your three favourite football games are.

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C. Hitchin FC
D. Celtic
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3. San Mames Stadium
4. Wembley Stadium
5. Anfield

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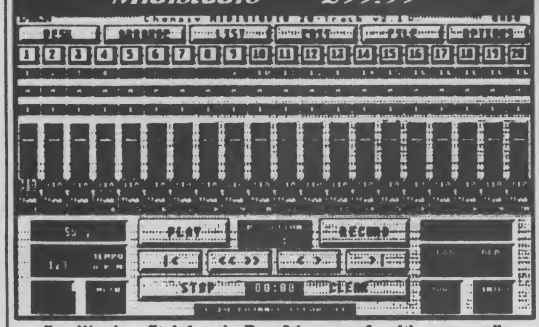

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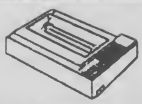

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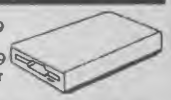

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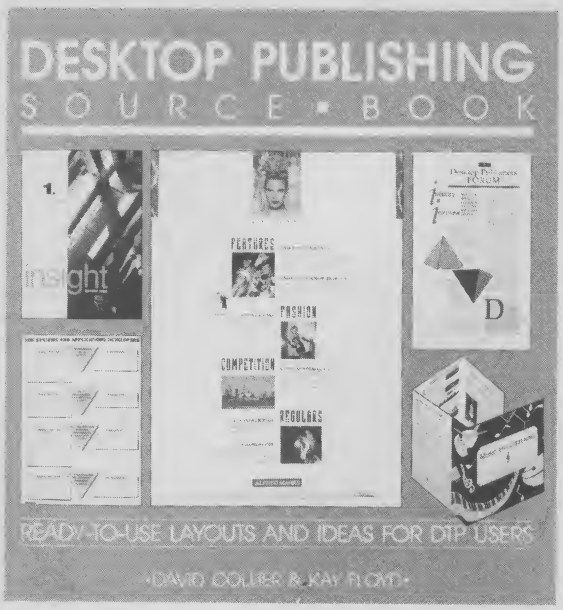

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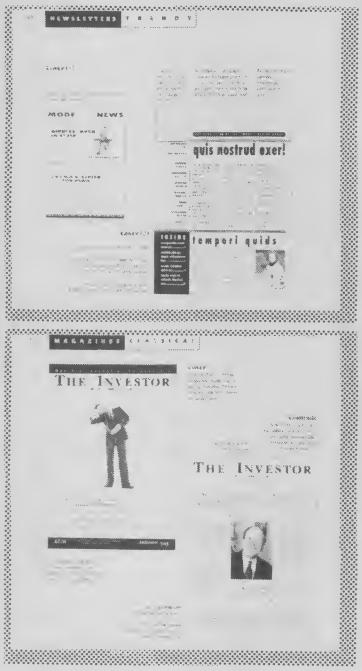
DESKTOP PUBLISHING SOURCE BOOK

Collier and Floyd • £14.95 • Headline Publishing • ISBN 0 7472 0155 2

DTP books tend to be much of a muchness: highly detailed on the 'applied' technical intricacies of the popular desktop publishing programs such as *Ventura*, *PageMaker*, Quark *Xpress* and so on, but shying away from the 'pure' design side of things.

The *DTP Source Book* is quite simply a manual for layouts, with hundreds of example pages clearly annotated and explained. There are sample designs for letterheads, company and club newsletters, reports, advertisements, catalogues... everything you can tackle with DTP.

The book is high powered and assumes you have some pretty expensive equipment at your disposal – to follow everything in the book you'd probably have a Macintosh or a top-end PC and some very expensive software.

But even for the regular producer of newsletters or other DTP stuff on less expensive equipment, the ideas will be invaluable. Typesetting from disk is becoming more and more popular – a glance at the *Yellow Pages* will yield dozens of companies who'll take your text on PCW, Spectrum, PC, ST, Amiga or whatever format disk and produce perfectly typeset pages to your specification. But without some design knowledge it's difficult to know what to ask for. This will be just the tool you need.

A snappy book, full of good ideas. It's not for complete beginners in DTP; you must be familiar with the basic ideas of production, layout, typography and so on. But for the established enthusiast with any set-up who wants to make their home-produced work look more professional, it's just the job.

★★★★

C&C Computers and Communications

ATTENTION

NEC PC ENGINE ANNOUNCEMENT.

NEC Corporation, NEC Home Electronics Ltd, and NEC (UK) Ltd (collectively 'NEC' hereinafter) have recently become aware that the PC ENGINE is being offered for sale in the United Kingdom. NEC believe that it is important that UK consumers should be aware of the following information.

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2. There are no authorised distributors of the PC ENGINE in the United Kingdom at present.
   Therefore, if you are offered a PC ENGINE which is said to be compatible with the PAL system or any transmission system other than NTSC, you should be aware that it will have been modified by a third party.
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   Finally, any modified PC ENGINE's sent to NEC (UK) Ltd for servicing will be returned to the sender.

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RISC: SIMPLY THE F

With the advent of RISC processors fantastic computing power is within the reach of everyone. But just what is RISC? Jerry Glenwright provides a no-nonsense guide to the technology...

• Acorn's Archimedes: the machine which heralded the dawn of RISC in home micros

During the heady days of 1986 Acorn unleashed onto an unsuspecting public the latest in a long line of innovative products, the ARM Development System. After examining the general state of the micro market in 1984, the company had decided that the current crop of central processing chips were just too slow. Acorn decided to develop a new kind of chip based in existing silicon technology but employing an innovative command structure to provide unheard of speed.

Taking RISCs

The new technology was entitled RISC and announced in 1985. The acronym RISC means Reduced Instruction Set Chip and the name provides a clue to the nature of the technology.

Prior to the development of RISC, CPUs were becoming more and more complicated in an attempt to increase speed and therefore processing power. One method of achieving this was to enlarge the buses to and from the chip. Beginning with a bus of four bits in width in the early 1970s, processors had advanced to the point where they were able to make use of 32 bit wide buses. The wider the bus, the more data can be fed into and extracted from the CPU and consequently the more processing muscle provided by the chip. However, to control and instruct the chips it was necessary to provide a more and more complex instruction set.

Although a complex instruction performs many more tasks than a simple one, the former requires vast amounts of processor time relative to the latter.

For example, an instruction might include the directives read address x formed by the contents of registers A1 and A2 and the offset FF8. Move the contents of that address to the accumulator multiply it by register Y and store it at address z. The ability to perform all those tasks in a single instruction is very useful for programmers but considerably slows a processor.

The development team at Acorn decided to revert to a simplistic processor model and reduce the instruction set to a bare minimum consisting of a few very simple commands which could be performed in repetition. Being simple, each instruction could be performed very quickly – typically within one clock cycle, the processor would be able to run at maximum speed and as the majority of processing is accomplished using simple repetitive steps anyway, no loss of processing power would ensue. All of the complex commands can be simulated by repetitive use of simple commands. multiplication can be performed by successive adding actions, division by successive subtracting operations.

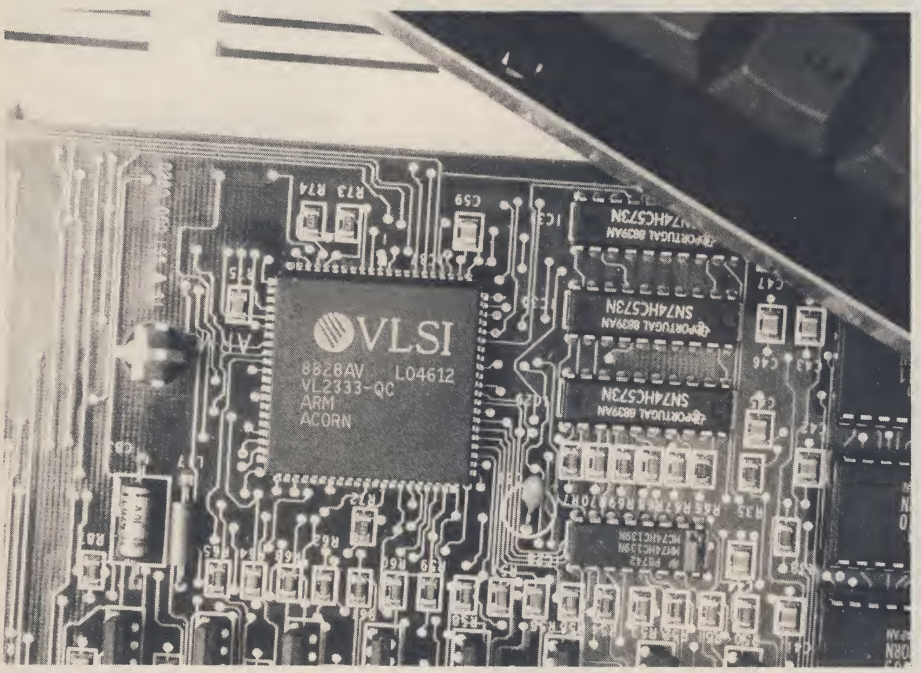
History lesson

By 1985, Acorn had developed the first chip relying on a reduced instruction set. The RISC and support chips were given the acronym ARM (Acorn RISC Machine) and in 1986 were launched into the market place in the guise of the ARM Development System. This was an add-on second processor similar to Acorn's Z80 and 6502 second processors, but aimed at software developers rather than Jo(sephine) Public. Cunning Acorn wanted to ensure a healthy supply of applications as cushion for the release of its intended range of RISC-based computers.

RISC aroused the interest of the press and public in a way unheard of since the hoo-hah surrounding the announcement of the Sinclair QL three years before.

Numerous demonstrations appeared on television showing computers employing RISC chips plotting Mandlebrot equations at lightning speed – the computer-interested section of the populace swallowed

F ASTEST YOU CAN BUY



• The Acorn ARM, the RISC chip at the heart of the Archimedes

the bait, hook, line and sinker.

1987 saw the release of Acorn's first RISC machines into the computer market-place. The Archimedes – as the new machine was known – came in three guises the A305, A310 and A440 sporting RISC CPUs and 512K, 1Mb and 4Mb of RAM respectively. The Archie was, indeed *is*, the fastest micro in its price range on the market offering power of 4 MIPS (Millions of Instructions Per Second).

After criticism of the early Archie operating system 'Arthur', Acorn produced the RISC OS – a significant improvement. RISC OS allows the power of the RISC processor to be harnessed by the user.

Back to the future

Today, and for the next few years at least, RISC is generally accepted as being the way forward for the microcomputer. Many of the major computer manufacturers have plans for RISC-based machines. Ever more complex chips are being designed but still the trade-off between speed and sophistication of instructions remains. RISC is a stop gap, you can only simplify instructions so far.

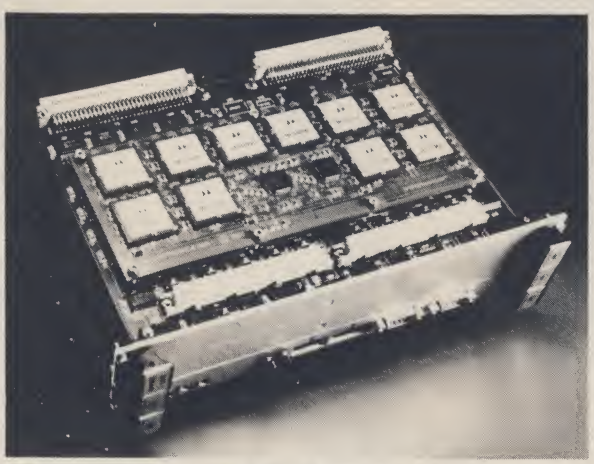
A fast – but dead-end – solution to existing problems rather than a new avenue to explore RISC will suffice until something better comes along.

VAX on a card

Until very recently the minicomputer was the choice for users requiring large amounts of powerful processing but with a limited budget or space. With the advent of increasingly powerful micros the division between mainframe and micro machine narrowed considerably and the minicomputer has been successively squeezed from the market-place.

Motorola's latest release is set to narrow that gap even more by providing the power of the VAX on a plug-in card for file-servers, network and communications controllers and various multi-user computing engines.

The card is the MVME188 which employs Motorola's MC88000 RISC central processor to produce 60 VAX MIPS. That is, 60 million VAX instructions being processed per second. Processing power such as this would've required machinery occupying a room half a decade ago.



• Motorola's RISC system can handle 60 million instructions a second

As well as the RISC chip there's 16Mb of dynamic RAM, a fast local bus to access it, and various connections to the outside world. Enough processing muscle and RAM memory to satisfy the needs of 150 users.

● What's in it for you?

RISC technology is all very well, but what's going to be available for your machine? Will you be able to buy plug-in RISC modules or chip sets for your machine giving it the power of RISC, or will it be necessary to abandon your current computer altogether and upgrade to the latest beast from your favourite computer company?

• Acorn Archimedes: Acorn's Archimedes is already equipped with a RISC processor making it the fastest microcomputer around. Yet already, there is a company (Aleph1 on 0223 811679) which is about to supply an add-on ARM 3-based board for the Archie increasing its processing power from the current speed of 4 MIPS to a massive 10 MIPS (millions of instructions per second). The card costs £600 and there's a chip extractor tool included in the price for those with sufficient confidence to open up their machines and fit the card. However, if you're of a nervous disposition, you can send your computer to Aleph1 who will fit the card and return it within 24 hours free of charge.

• Atari: With the ST selling well around the world is Atari about to sit on its laurels? The ATW transputer-based computer is essentially a RISC machine. At the heart of the transputer is a RISC central processor running at 20MHz and although Atari has no immediate RISC-based product release in the offing, the company *is* investigating the possibility for a RISC computer. If you have an ST, then it's unlikely that you will one day be able to replace its 68000 CPU with a RISC device, but perhaps in the near future, you will be able to trade it in for its RISC equivalent.

• Commodore: You might think that with the Amiga's blitter chip and various other custom silicon there'd be little need for a speed improvement, but wouldn't it be nice to double the speed of your animation packages? Triple the speed of DTP applications? Commodore, unfortunately, have no plans to release a RISC upgrade for the Amiga range, but they are looking at RISC technology and have lots of ideas for future products.

● RISC and the transputer

Transputers have received much attention of late – and deservedly so. Systems incorporating transputers enjoy parallel processing, meaning that separate parts of the same problem can be worked upon at the same time. Each addition of a further transputer doubles, triples, quadruples the processing power of the system in which the transputer is installed. And what's at the heart of the transputer? A RISC central processing unit, of course.

The transputer is divided into areas of ROM, RAM, buses and connections to the outside world, and a 32 bit RISC CPU which offers the transputer system unparalleled (!) processing power.

A 32-bit RISC-based transputer running at 20MHz provides 10 MIPS. That's 10 million instructions per second being processed. The speed of the RISC CPU and the flexibility and range of the transputer are perfectly matched.

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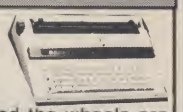

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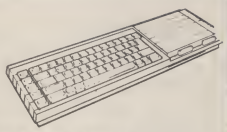

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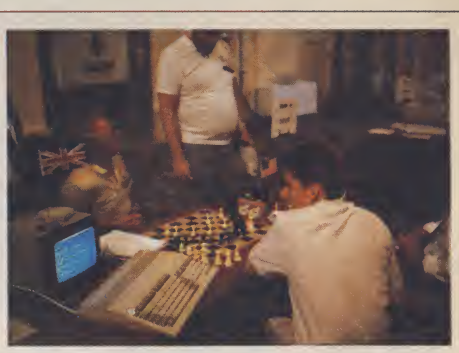

CHIP CHECK

Last week, the world's top strategy game programs met each other for the first Computer Olympics. Andy Storer was there at the trackside...

The 1989 Computer Olympiad, held at London's Park Lane Hotel between August 8 and 15, was the first international meeting of more than 100 programs from 15 countries competing for the title of computer World Champion. The main 'Brain Game' programs featured were for chess, bridge, go, backgammon, draughts, and Scrabble, but also making an appearance were programs playing Chinese chess, renju, awari, go-moku, mah jong and othello.

Custom hardware was overshadowed by dozens of PCs, STs, Amigas, Archimedes, C64s, and BBCs pitted against each other running amateur, experimental and commercial software all entered for a £50 fee. Eighty per cent of contestants were hobbyists, the remainder academics, professional researchers and commercial programmers. Acer International, the Taiwanese computer manufacturers which has just shipped its millionth PC, sponsored the event and supplied 40 '386 machines for PC competitors.

Perhaps most interest was generated by the chess competition where 11 programs battled it out against the world champion, *Mephisto*. Designed by Richard Lang this British program has been the World Micro Computer Chess Champion since 1984. One contender in with a good chance was CP Software's latest release *Chess Player 2150* (pictured top centre) which came to the event having scored decisive victories against 16-bit opposition of the quality of *Colossus Chess X* and *Chessmaster 2000*on the ST, and *Chessmaster 2100* on the PC.

But running on the ST and Amiga, *CP 2150* failed to make an impression on the dedicated chess computers from Germany and America using specialized 20MHz 68030 hardware. But in the end a 6502-based contender, *Rebel*, programmed by Dutch enthusiast Ed Shroeder, beat *Mephisto* and took the Gold.

But can you do it?

David Levy went on record as saying that a computer would never beat him at chess in 10 years. Well, that was 21 years ago but David is due to play an American program later this year called *Deep Thought* which he thinks stands a good chance of beating him. *Deep Thought* is hardware based, developed using Very large Scale Integration, and tied for first place last year in an international chess tournament ahead of a number of Grandmasters and a former world champion. But David reckons chess computers couldn't beat the current world champion even with a thousandfold increase in hardware power.

• The top two computers battle it out: *Rebel* (left), the ultimate winner, and *Mephisto*, the previous champion clash in Park Lane

The Olympiad also doubled as a conference forum for papers on a number of areas of games theory and strategy. One of the most intriguing was one delivered by researchers at the Hebrew University in Jerusalem. Running on a VAX mainframe, the development software is designed to explore techniques of negotiation by playing Diplomacy! In this way, it may one day eventually be applied to problem solving in human environments.

WIN OVER A MILLION POUNDS

The game of go (or wei ch'i, which means "surrounding chess") has been around for 4000 years or so and can rightly claim to be the ultimate strategy game.

Played by over 25 million people in at least 30 countries, the aim is to move black and white stones along vertical and horizontal lines on a 19x19 grid in an attempt to surround an opponent's territory. In a single game, there are up to 10761 possible moves - compared to the mere 10120 that can be made in chess. Such is the magnitude of the task awaiting a programmer to design software that'll trounce a human go player that Acer have offered $1.4 million to anyone who can bring it off before the year 2000. As such you have a good 10 years to cut the code so get going! In doing so, you'll need to be ready push artificial intelligence firmly into the 21st century though.

SO GO FOR GOLD

Next year's Olympiad will be held between August 8th - 14th at the Park Lane Hotel. If you have a program you'd like to enter give organiser David Levy a call on 01-624 5551. Any individual,company ,school or educational institute that has written a program to play any of the games mentioned is eligible

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A good bit of stuff

About two weeks ago Software Horizons went into voluntary liquidation with Microdeal looking like the most likely candidate to take over distribution of its only decent asset – *MasterSound*. This sampler comes from 2-Bit Systems which is hopping mad that sale of *MasterSound* has been put off even though there are warehouses full of the product. However, 2-Bit now has its eyes set on a brand new music package which is certain to over-shadow the *MasterSound* furore.

A-16S is a 16-bit stereo affair which is capable of producing CD-quality output with sample rates up to 44KHz. What makes the *A-16S* particularly impressive is the way samples can be saved directly onto hard disk thus drastically increasing the potential size of a sample so that instead of just a three or four minute track being held in around 1Mb of memory, a whole record could be stored straight onto disk.

The software which comes as part of the deal is capable of manipulating this sample just like a professional studio would do, editing out clicks and employing low- and high-pass filters so that different instruments can be separated. For example, with a snare and symbol on the same track, the low-pass would separate the snare whilst the high-pass would pull out the symbol.

Midi-looping is also possible. This is where a key can be held down so that the first part of a sample is played and then looping goes on around the middle part, with possible frequency shifting, until the key is released.

The *A-16S* costs £595 but for that you get the hardware and three pieces of software – Editor, Sequencer and Midi. It's meant to compete with Hybrid Arts' ADAP which retails for £1800 so it really does represent a 16-bit price crash. 2-Bit hope to have it ready to sell at the PCW show.

▪ **2-Bit Systems can be contacted on 0582 457348**

Wacky second drive

I first mentioned Lakmeyer's blower three issues back and now that I've been able to lay my hands on one I can give you the low-down on all its features.

First off, the blower comes as a plug-in cartridge, guaranteed to work on STs with all the common chip types from 28-pin right through to 32-pin.

Lakmeyer have included a program which can turn the blower into a read-only second drive working at three times faster than an ordinary floppy. Apparently an updated version is due soon which will be able to read data in from the EPROM at speeds approaching hard drive specifications.

To use the programmer you run a program on the disk which creates a drive C on the desktop. You then copy the files that you want to be included on the EPROM into this drive – up to 120K. This done, a second program is used to 'burn' the data into the chip.

Once files have been 'burned' onto the EPROM they cannot be removed without an EPROM eraser so its best use is for holding a commonly-used piece of software. A READ program is then put into an AUTO folder which creates a drive C icon, providing access to the files on the chip.

• Lakmeyer's new EPROM programmer can turn chips into a read-only second drive

Surprisingly, there are software features which can split a file into separate upper/lower byte files which may be used on 16- or 32-bit systems – essential for ST cartridges.

One of the programmer's best features is the ease with which it can be used by non-technical people. For a start, there's a whole range of error messages which can tell you if the chip has already been 'burned' or if it can't be used for some other reason. Also a special foldback overload protection circuit means that it's impossible to cause damage to the chip even if it's inserted the wrong way around.

▪ **The programmer costs £190 and is available from J. Sinclare (01-316 1779)**

Eye, eye

Logotron, the software house that came out with the enormously popular *Archipelagos* earlier this year, intends to release *Eye of Horus* in time for the PC show. It's a platform arcade adventure game set in ancient Egypt with the objective being to guide Horus – a hawk-headed god – around a labyrinth in search of his evil half-brother, Set. Horus can transform into a bat at any time and thus escape a host of confrontations.

What makes this game better than many others is the size of the sprites – Horus is a massive guy and the graphics throughout the whole game have been faithfully reproduced from ancient Egypt.

As part of the all the hype for the game, Logotron are arranging a competition with the first prize being a one-week holiday for two in Cairo.

Calamus tip

Signa's *Calamus* is a great DTP package but it won't let you print text in shades between black and white. However, there is a way to get around this problem if you fiddle things. It's possible to add patterned shadows and these can be moved around the screen in relationship to the text. By choosing the shadow pattern and then setting values so that the whole of the shadow falls underneath the main text you'll have created different shades of identical text. The next step is to place a white rectangle over the top of the original black text, thus obscuring it and leaving only the shadow on screen. Print this out and magically you get text in various shades.

Signa says that as soon as their *Calamus* utility, Outline, is ready then these kind of fiddles won't be necessary.

Kim Harmargh

AMIGA BLIT

ECS Update

According to a source close to Commodore, the company is deliberately holding back on the release of the ECS Agnus chip although large quantities have already been produced. This comes after recent claims that many Amiga 2000s of German origin have been arriving in this country fitted with the 1Mb Agnus as standard. According to our source, Commodore are holding back the new Agnus to clear out stocks of the current Agnus release, and as soon as supplies have been used up, the new chip will then be fitted as standard to all new machines.

This raises questions about the exact specification of these 1Mb Agnus chips. The Agnus chip included within the Enhanced Chip Set includes several new high resolution screen modes which makes the chip useless unless used in conjunction with the new Kickstart 1.4 ROM which is still being developed as we speak. What many industry watchers believe is that Commodore may have produced an Agnus chip that is a bridge between ECS and the current chip set release which provides 1Mb of chip RAM, but no enhanced screen modes.

When I recently spoke to a supplier that was selling machines with the megabyte Agnus installed, he claimed that the megabyte Agnus chip worked fine under Kickstart 1.3, which leads me to believe that this is not a complete ECS Agnus. If any of you have any comments or have bought a machine with the 1Mb Agnus, please contact me at the address below.

It's a Megablast!

After the huge amount of hype that has surrounded the release of the Bitmap Brothers' latest creation, many of us expected *Xenon 2* to be a real turkey. Thankfully, you can all breathe easy as the game has more than lived up to expectations.

I won't bother telling you the plot of the game as the only bit of mission information you need is 'blast everything in sight' – keep this in mind while playing and you won't got far wrong!

The most impressive aspect of the game is the graphics and music. The animation and definition on the on-screen sprites are simply the best yet seen within an Amiga game and really are of arcade quality. The Bomb the Bass soundtrack, Amiga-ised by Dave Whittaker, is simply stunning considering the original was recorded onto 24 track tape.

Despite the amount of pre-launch hype that has surrounded *Xenon 2*, the Bitmap's have certainly come up with the goods. It looks like the authors of *Blood Money*, Dave Jones and Tony Smith of DMA Design, are going to have to come up with something pretty special if they are to regain the crown as masters of the Amiga shoot-'em-up. Meanwhile, if you only ever buy one Amiga shoot-'em-up, make sure it's *Xenon 2*!

For a fully playable demo of the Bitmap's latest masterpiece, check out the next issue of *Amiga Format* magazine which should be available at a newsagent near you on the second Thursday of next month.

Plug ends.

Grabbing VIDI

Thanks to those nice chaps at Rombo, I've finally been able to lay may hands on a prototype of their eagerly awaited VIDI Amiga video digitiser.

Unfortunately, the review unit we received was only a pre-production model that only supported an NTSC screen resolution and grabbed frames in shades of grey only. According to Rombo, the finished model will be available in both PAL and NTSC versions and will have full colour support including HAM mode operation.

• VIDI Amiga in action.

The most astounding thing about VIDI is it's amazing frame capture speed. Unlike the popular Digi-View from NewTek, VIDI is real-time, which means that it can happily grab from any video source without having to pause the picture. Even with my pre-production model, the results were of very high quality.

For an example of VIDI's power, I set the unit up to continuously grab and display frames from the output of another Amiga running Anco's *Kick Off* (yes, we're still playing it here at Future!). I was then able to still play (and win) *Kick Off* by just watching the digitised frames that were being displayed. Very impressive!

Ghoulish Amiga

We journalists are a strange bunch – we work all day and sleep all night (and wear women's underwear?). For me personally, the thought of waking up before 3 pm on a Saturday is more than enough to cause me to break down in tears, but last Saturday it happened... I woke up in the morning, and what should I see when I switched on my television set? An Amiga of course!

Those of you who haven't got a dog to walk, may have watched that strange children's program that goes out on a Saturday morning on ITV called 'Ghost Train'. Apart from the rather strange presenters (a sheep – I kid you not!), you may have noticed a blackened computer featuring strongly in the show. This poor box of electronics is actually an Amiga 500 which has obviously seen better days.

Treating an Amiga in such a barbaric manner shouldn't be allowed!

Jason Holborn

Message Port

If you have any views or comments on any issues raised within AmigaBLIT, or in fact the Amiga scene in general, then why not put pen to paper and share them with your fellow Amiga owners? Similarly, if you have any great tips, tricks or cheats for the latest Amiga software, then I'd also love to hear from you.

The address to write to is: Jason Holborn, Amigablit, 4 Queen Street, Bath BA1 1EJ.

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PC UPDATE

Not hard

I was interested to read of the proposed launch of Amstrad's latest computers the PC1286 and PC1386. The new computers are to be based on the existing '286 and '386 Amstrad machines but will be shipped with a single floppy drive.

Apparently, Amstrad has identified a niche in the micro market requiring slightly different versions of the PC2286 and PC2386. Many prospective buyers don't need a hard drive but would like the processing muscle of the faster processors. This seems a little odd as most 'power' applications like DTP which benefit from the meatier chips also need a hard disk to store their data.

There's also to be a low-end entry-level PC in the same vein as the PCW, with 640K RAM a 3.5inch floppy drive and a bundled printer - details of the computer are sketchy at the moment.

Baby, that's really random

A veritable flood of post this week - thanks to all three of you. 66 per cent of all readers who expressed a preference wrote about the little BASIC routine in the issue 36 *PC Update*. If you'd care to cast your collective minds back, you'll remember that the problem addressed by the program was to select all 26 letters of the alphabet in random order, once and only once. The routine I presented used an array filled with the 26 letters of the alphabet and repeatedly swapped pairs of them, selected at random. Letters were then pulled out in the resulting 'random' order.

Ettrick Thomson of Aldeburgh wrote to point out that the routine is only a shuffle and not a true random permutation. This may be mathematically true, but I defy him to distinguish the generation method by looking at the finished letter sets. Here's his code:

```
10   DIM LETTER$
20   FOR COUNT%=26 TO 1 STEP -1
30   CHOICE%=RND(COUNT%)
40   LETTER$(27)=LETTER$(CHOICE%)
50   FOR COUNT2%=CHOICE% TO 26
60   LETTER$(COUNT2%)=LETTER$(COUNT2%+1)
70   NEXT COUNT2%
80   NEXT COUNT%
```

This routine is likely to take marginally longer, as well, as it makes an average of 13 assignments for each iteration of the outer loop.

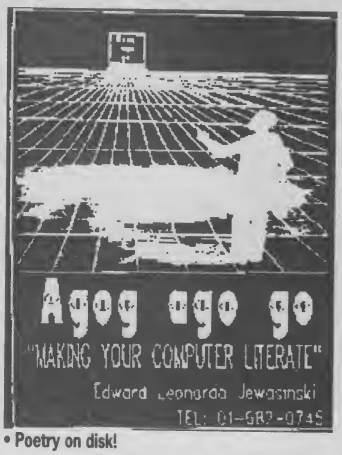
The other letter was from M.J. Adams, who promises not to say anything about my routine if I don't!

Leaving aside the rather unpleasant structure of line 30 and the use of two arrays, it stands a good chance of taking 'ages' to terminate. As the loop progresses, test$ will fill up with 'positives' until on the 26th iteration, the program will have to keep looping at line 30 until it finds the one remaining hole in the array into which to stick its final 'positive'. With the speed of modern PCs this will probably not take long, but it's a very inelegant algorithm.

Poetry for PCs

The other letter, and disk to boot, was from Edward Leonardo Jewasinski. He is editor of the literary magazine *Agog* and was following up on my piece on DTP for poems. His mag is now available in machine-readable form and he sent me a copy, which I eagerly slapped into my trusty PC.

Something like a cross between teletext and hypertext, this is a very interesting concept. It should be a lot cheaper than paper for



• Poetry on disk!

shifting poetry around the place, though it does require a PC of the reader. As to the content, it is largely poems of relationship or introspection. There are some highlights and I particularly enjoyed the rather rude poems of Jane Fell, which bore a startling resemblance to each other, and *Making Love in the Early Morning* which bore a certain ring of truth. Currently £4 per copy (the paper one is only £1), write to 116 Eswyn Road, Tooting, London SW17 8TN for more information.

Locomotive's best

A recent trip to Dorking found me at Locomotive Software's HQ to have a quick shuffty at the PC version of *LocoScript* and BASIC 2 Plus. While you'll have to wait for the next issue of *PC Plus* for full reviews of these (you do read it don't you?), a few words about Locomotive's setup itself are perhaps in order. Locomotive are only about 20 strong, though they are still the force behind the biggest selling word processor in this country. They made a conscious decision some years ago to stick at this size and concentrate on jobs they could handle with this number of staff.

They major on customer support and are happy to upgrade a product to suit a particular user, if they consider that user's requirement legitimate, and of benefit to others.

This may sound unduly philanthropic in today's cut-throat world of PC software, but it has the benefit of keeping their products at the forefront of what's available, and continues to ensure that *LocoScript* contains linguistic and font features available in no other word processing program. All power to them, and it's a pity there aren't a few more companies with the same enlightened approach to business.

Simon Williams

```
10   DIM letters(26),test$(100)
20   FOR n% = 1 TO 26
30   letters(n%)=(INT(1+RND*26)+64): IF test$(letters(n%))="positive" THEN 30: ELSE
test$(letter(n%))="positive"
35   PRINT CHR$(letters(n%));
40 NEXT
```

• M J Adams' routine for randomly drawing letters of the alphabet

CPC centre

Omega: a new beginning

Among the usual clutch in today's post of press invites, attempted bribes and letters asking me to open village fêtes and supermarkets, was an intriguing little parcel from Swift Software. To my delight it contained a very prompt upgrade to *Pandora*, attending to many if not all of the shortcomings of the first release.

You can now, for instance, express constants in hexadecimal, mixing them freely with denary; logical operations on *Pandora* variables have now been included; and there's a new LOOP command, similar to BASIC's FOR – NEXT loop, that allows continuous incrementing of a named variable until the variable reaches the "target" value. So, for example:

```
LOOP start,end,variable:NEXT
```

– where "start" is the starting value (constant or variable), "end" is the target value (must be > "start"), and "variable" is any of the 26 *Pandora* variables.

In the same parcel was a copy of *Ωmega* (Ω being the last letter of the Greek alphabet), a utility, or "environment" as it's called here for the 6128, that allows you to swap between the two banks of 64K memory. Here, watch this... one moment I'm pounding away at *CPC Centre*, and now, with a touch of [Ctrl] & [Shift], hey! I'm immediately into *Rick Dangerous*... and almost as quickly lose another life. Ah well, you get the idea.

It's a brilliant idea, and it's only a wonder that no-one thought of such a thing for the CPC before. After all, the program itself is only 3K long!

Also available from Swift is Swift Selection, a new compilation of five simple but fun games written by previously unpublished programmers. And finally, Swift is re-releasing the old Superior Software program *Speech*. They are on offer at £4.95 for tape and £7.95 for disc.

▪ **Swift Software is on (061) 456 0926.**

Bizarre hardware dept.

Also among my post this morning was the Spectravideo QuickShot WizMaster, a grandly named joystick that is in fact surprisingly dinky. Its extraordinary appearance seems to suggest the new console trend, but at £12 you can't expect too much!

Despite the revolutionary look it feels cluttered, especially on the left hand, where the screw-in levers are more of a hindrance than a help (and are bound to get lost). It plays only moderately well, and certainly no better than 10 other sticks I could name.

Boring, boring Spectrum!

I spent last weekend with US Gold's *Indiana Jones and the Last Crusade*. Now although I must put in a moan about it being a Spectrum port, and consequently composed of boring mono sprites (if I'd wanted rubbish I'd have bought a Speccy), at least US Gold is supporting the CPC. There must, it follows, still be money to be made, if only some of the other software houses would realise it.

However, back to the game. Like *Licence to Kill*, the new Bond, it goes for the four-scenes-from-the-film approach. And like *LTK*, it's not always immediately apparent which scene is being represented. On the first mission, for instance, *The Cross of Coronado*, there's a whole lot of rope-swinging and evading of knife-throwers that I must have snoozed through in the film.

Still, it's a large and complex game, and the Indy sprite looks good and moves well, clutching his hat as he jumps and generally exuding the Harrison Ford charm. Oh yeah, and if you wait for a while and try to work out what to do, he looks towards you and shrugs! Nice touch.

So far I've got as far as the beginning of the third level, set aboard the Zeppelin (terrible matte shot in the film, by the way: must remember to have a go at Steve & George about that). Tiertex, the programming team, have gone for a most alarming screen wobble in this mission, meant to represent an airship moving along. It has a terribly disconcerting effect on the old eyes, but there you go.

All in all, however, *Indy* is a game I can recommend highly, well worth the asking price .

Oops apologies

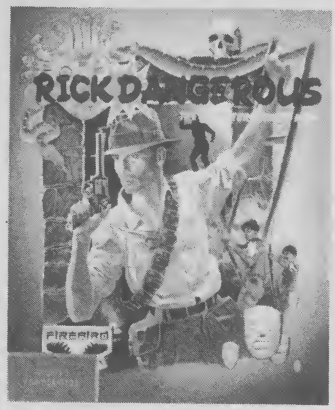
Finally, I extend a fraternal cross-channel hand of friendship and apology to Infogrames of France. I inadvertently added £5 in cost to *Purple Saturn Day*, which is in fact £10 on tape and £15 on disc. Not all my fault, though: I was given these prices by one of its own charming PR people. **Steve Carey**

Not so dangerous!

At last! The ever-wonderful and reliable Sale pokester "Mighty" MIKE WONG has put me out of my Rick Dangerous misery and come up with a poke that gives you everything an Indy-clone could want.

To enter this disk poke, simply type in the listing exactly as shown, then RUN" and hit the small ENTER key. Now when you load Rick you'll have a trouble free life – you'll still die, but you won't lose a life!

```
1 ' Poke for Rick Dangerous
2 ' by MIKE WONG, NCE 42
10 FOR n=&BE80 TO &BEA4
20 READ a$:a=VAL("&"+a$)
30 POKE n,a:c=c+a:NEXT
40 IF c<>3183 THEN 220
50 FOR n=0 TO 2:READ a$
60 PRINT"Inf ";a$;" (y/n)";
70 INPUT a$
80 IF a$="y" THEN 100
90 POKE &BE96+n*3,&21
100 NEXT
110 PRINT"Insert RICK...;"
120 CALL &BB18:MODE 1
130 CALL &BE80
140 DATA 21,00,01,11,00,00
150 DATA 0e,41,df,a2,be,21
160 DATA 94,be,22,25,01,c3
170 DATA 00,01,3e,a7,32,c3
180 DATA 88,32,35,9f,32,90
190 DATA 9f,c3,50,50,3c,c0
200 DATA 07,lives,bullets
210 DATA bombs
220 PRINT"Error..." ●
```



• **Now *Rick Dangerous* is having trouble living up to his name, thanks to our poke!**

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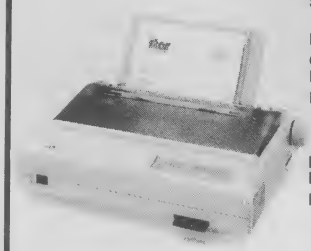

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Slewrate:	57 cps LQ Elite
	21 Lines per second (3.4" PS)
LQ Matrix:	24 x 35
Graphics Resolution:	360 DPI
Printing:	Bi-directional logic (short line) seeking
Number of Pins:	24
Interface:	Parallel. IBM Proprinter X24, Pro II, Proprinter, Epson LQ800, LQ1500.
Buffer:	7K
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SPEX

Budget breakthrough

Companion. Software made some life long friends amongst Spectrum owners by producing excellent utility software, like EX-BASIC which I reviewed many moons ago. They're aiming to make lots more (friends and moolah) by changing their name to Videocoders and sprouting a budget software label which should have its first batch of £2.99 games in the shops for September.

The first releases will be arcade style offerings and available on the Reality label for the three major eight-bit machines. If everything goes according to plan and the budget label establishes itself in the cut-throat cheapie market there's also the possibility of some full price software.

They have already got together quite a collection of original titles for the Speccy but are on the look out for more games to evaluate with a view to publication and making lots of money. Also required are loading protection routines and talented graphics/loading screen artists. If you fit any of the descriptions get in touch with Videocoders at 193 Brampton Road, Carlisle, Cumbria, CA3 9AX. Remember to enclose a Jiffy bag big enough for the Ferrari!

Sound succor

At last someone might be able to offer solace and a shoulder to cry on for people who own +3s with distorted sound. Following my plea for more information on the infamous sound fault Brian Gaff, the Spectrum Area Ed for Micronet, braved the wrath of Amstrad and very kindly told me everything he knows. Unfortunately, I still haven't found a simple, foolproof method which gives undistorted sound so don't put the celebratory bunting out just yet. At least we'll know now what we're up against. Without further ado or references to Kylie Minogue and goldfish bowls, here's what Brian had to say.

"My sources tell me that some 40,000 +3s were made with an error in the sound circuit that made the three channels intermodulate each other. This is also present at the sound socket, by the way. There were two fixes employed at various points. It is hard to actually say when each came into force but Amstrad seem to be saying that when the +2A was launched, with its redesigned +3 PCB, all sound problems were fixed on the +3 from then on.

In addition to the sound fault fix, a new set of ROMs were issued and were being fitted from November 1988 onwards. This can be tested for in the usual way by looking at the test routine (activated by holding down break and resetting and then pressing keys QAZPLM). If it is V4.0 then it is my opinion that the sound is suspect, if it is V4.1, it should be pretty good."

Huge thanks to Brian Gaff for the free of charge enlightenment distorted +3 owners the world over should be very grateful to him. All we need now is a cure...

Public apology

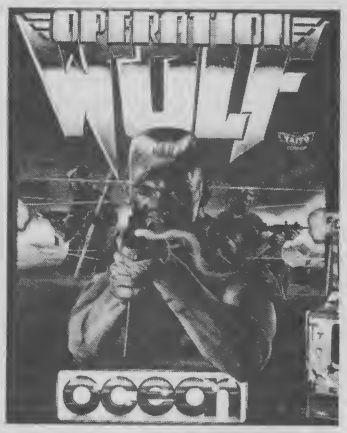
Last week, several column metres were devoted to what I said was the Spectrum's only public domain and shareware software library. Not for the first time, I was wrong. Sort of. There is another one offering PD for the Speccy but to be fair its programs are only available to +3 owners and then only ones with a copy of Locomotive's CP/M package. As you might twig by the title, PCW World is really geared up for another machine but there's no reason why +3ers, with CP/M, shouldn't try a few disks from its varied collection which ranges from languages and word processors to a few games.

The programs haven't been tested on a +3 but there's no obvious reason why the majority shouldn't work and with each disk priced at a very reasonable £3.75 it's well worth getting hold of a catalogue. Send an SAE to PCW-World, Cotswold House, 7 Deeley Close, Cradley Heath, Warley, West Midlands B64 7NF.

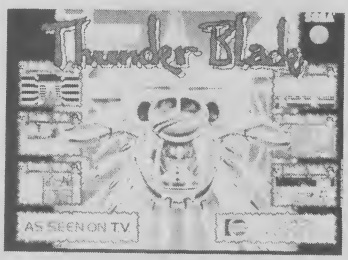
Cheats corner

Prepare your finger tendons for a straining session of cheat mode activating as I present a collection of the things sent in by some loyal, generous, skilful readers who should now have a fully pumped up ego.

- *Stormlord* - Type BRINGONTHEGIRLS (with no spaces) for infinite lives
- *Exolon* - Redefine keys as ZORBA for infinite lives.
- *Cybernoid* - Redefine keys as YXES.
- *Cybernoid II* - Redefine keys as ORGY.



- *Operation Wolf* - Load the 128K version into 48K and you start on the last level.
- *Renegade 128* - Press 0 to advance a level.
- *Renegade III* - If kick on the top level of the screen baddies below you feel the blows but are unable to hit back.



- *Thunderblade* - When you're asked to select keyboard or joystick speed control press G and O. This will allow you to skip a level when playing by hitting Enter.

Thanks to: Michael Hutcherson, Laurence Sheed, Justin Wood and Jon Culshaw for supplying those.

The things I'm now really looking for are detailed playing guides, pokes and cheats for the two recently released Speccy classics, *Carrier Command* and *Starglider II*. Send anything you have on them to me at SPEX, *New Computer Express*, 4 Queen Street, Bath, BA1 1EJ and you'll be handsomely rewarded.

Robin Alway

SECTOR 64 SECTOR

Compo winners

The answers to the recent Sector 64 quiz were:

- No, you can't use C64 games on a C16. (You could try with a disk drive but they won't work)
- Yes, K-Tel did make computer games
- The C64 runs at 1MHz
- The 1541 is a slow disk drive (No one got that wrong!)

The winners of some C64 demos were Lee Jordan from Birmingham, A J Hughes from Clwyd and Steven Lee from West Sussex. Congratulations lads.

Cheats cheats cheats

Loads and loads of cheats for you this week. Dig through your piles of games and pull out the ones you've never completed. Thanks to Joe O'Brien for the collection of mega cheats.

- **Netherworld**

Press 2, 4 and E together to finish a level

- **Bionic Commando**

When a man appears pres ShiftLock and I together to stop the timer

- **Parallax**

Here are the passwords to get you access to the next level. A)Stack B)Jewek C)Parch D)Salon E)Globe

- **Game Over**

To access level two the code is 25472

- **Mystery of the Nile**

Passwords: Level 1=HD576172V, Level 2=HE576171V, Level 3=HF576170V

- **Renegade III**

When you die on level two don't rewind the tape, just press space and it will load level three

- **Hawkeye**

Type VALSSPELER on the title screen to get unlimited lives. Did you know valsspeler is Dutch for cheat?

- **Arkanoid II**

Type CHEETAH into the highscore table to be as smart as Batman

- **Nemesis**

On the title page hold down Shift and press Space five times. A weird blotch appears in the corner of the screen indicating that the cheat is active

- **Cybernoid**

Type Y, E, X, S when you define the keys. This also applies to *Cybernoid II*, but try Y, G, R, O instead

Ian and Mick

Reset time

All those cheats and not one where you have to reset the computer! But thanks to Goody from Rotherham you can wipe the cobwebs off the rusty reset switch.

In Robocop *POKE 4416,0 for infinite lives, the SYS 32768 to restart.*

In Operation Wolf, *try:*

POKE 36007,165 : Infinite energy
POKE 35103,165 : Infinite bullets
POKE 35107,173 : Infinite cartridges
POKE 34952, 154 : Infinite bombs
SYS 16960 : Restart

ATARI 8-BIT ANTICS Roadshow

Animation inaccuracy

I've had a letter from Ron James of Preston pointing out an inaccuracy in the mini animation tutorial featured in the last edition of the Antic's Roadshow (*Express* 40).

Ron explains '...ATASCII is the Atari version of ASCII but in ASCII and ATASCII A is 65. The program is using the internal keyboard code to poke 33 into the program, instead of poking in the ASCII/ATASCII characters. It's a bit complex but each key pressed registers a number, this is converted to the ASCII/ATASCII number which then displays the symbol corresponding to that number in ASCII/ATASCII. The program is translating the keyboard code direct to its ASCII symbol i.e. Print CHR$(65) will give an A or Print ASC("A") will give 65'. Here's a little program from Ron which gives the value of the keyboard keys:

```
10 Open £1,4,0,"K:"
20 Get £1, CHAR
30 Print CHAR
40 Goto 20
```

The first line of this program opens a channel to the keyboard, allowing you to receive the value generated by the keyboard directly. The second line gets that value and assigns it to the variable CHAR. Line 30 prints to the screen the value represented by the CHAR variable. Line 40 merely loops the program back around to waiting for a keyboard depression.

Wild blue yonder

Following last week's request for Sub Logic's *Flight Simulator* aficionados to send in the co-ordinates of anything interesting or unusual they've found in the program, I've had several letters asking for a review of the program. It seems there are Atari eight-bit owners out there who've actually never heard of the program! I'm afraid the confines of a quarter page would not do justice to an attempt at a complete review of a package as complex as *FSII* (as it's popularly known) but here's an overview.

As its name implies, the program is a flight simulator which tries to provide complete accuracy and realism in preference to arcade action shooting and killing – although there is a world war game included with the program. *Flight Simulator* puts you into the seat of a Piper Archer light aircraft with the whole of North America in which to fly. All the instruments you'd find in the real 'plane are included in the simulation, the aircraft behaves almost exactly as the real thing and there are 47 factors taken into account with each flight (weather conditions, season, time of day, etc.)

What makes *Flight Simulator* extra special are the four detailed locations in the game. There's New York, Chicago, Los Angeles and Seattle complete with all popular landmarks. For instance flying around New York you'll see the Empire State building and the Statue of Liberty out there on Ellis Island. You can fly around, over – even under them. FSII is so good that Sub Logic are making applications to the American Federal Aviation Authority to allow *FSII* to be used by real pilots to log practice flight hours with.

If you're even vaguely interested in flying buy this program – there's nothing better.

Edmund Blake

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PCW PATCH

Portable PCWs

So we all use our PCWs for writing. But your study or garret flat is not always the most conducive place to work. This column is being written in the splendour of the North York Moors on a cloudless August afternoon.

One option is the Cambridge Computer Z88. It has a built-in word processor/ spreadsheet program, full QWERTY keyboard and 8x80 screen and stores everything to the RAM – no disk drives! You use it as a sort of electronic notepad, transferring your work back to the PCW when you get home. You need an RS232 interface and a lead to connect them. The Z88 is £199 from Comet/ Dixons/Laskys etc. You can only transfer ASCII files so any accents/Greek characters etc must be added in by *LocoScript*.

An alternative is a PC portable. You can get one for about £400 upwards (the Amstrad PPC is the cheapest, but watch out for the new Protocol laptop at £700, out in a month or two – in my opinion, the machine to have). It has the advantage of the disk drives, but again you can only transfer ASCII files and need an RS232 interface. However, *LocoScript* is coming out on the PC, and you'd then be able to work in your favourite word processor and transfer *Loco* files from PCW to PC without losing all those layouts, Greek, Cyrillic or mathematical symbols. It should be out sometime in September, at I guess £70.

Pigg Book of Records

Most bizarre PCW program

Surely the joke PD program WET.COM which reports water in the chips. You hear them dripping dry and the screen is then shaken clean and 'spin dried' to appropriate sound effects.

Quick address

Here's a a quick way to print out the address on an envelope in *LocoScript*. Copy the recipient's name and address from the top of the letter to the top left of a new page (end the previous one with [ALT][RETURN]). Before this final page prints out, press [PTR] and select 'Left offset' setting this to 30. Your address is printed for you in the right place.

Tipoff tipoff

Possibly the most valuable book ever for the PCW is now being put together by *8000 Plus*: the complete tipoffs from that magazine, revised and updated. Details soon...

Rum doings

A mate of mine in Oxford bought a PCW second hand the other day. The old gentleman who owned it had died and his widow sold my mate the lot – manual, software, data disks – cheap to get rid of it.

Unable to restrain his curiosity, my friend peeked at some of the letters left on the data disks, put in limbo under the errant assumption that they had been permanently erased. It was clear that... well, he'd been what my Mum would call 'a bit of a rum lad', presumably quite unbeknown to his widow (we didn't feel like asking her).

Be warned: if you have dark secrets, erase your *LocoScript* limbo files, before someone else finds them...

Basil Pigg

QL corner

Cambridge workshop

QUANTA, the QL users group, has just held a successful two-day weekend workshop at Papworth, just outside Cambridge. Over 100 members turned up on the Saturday

Rebel Electronics showed off its hard disk system, which is now being shipped in quantity after a delay caused by software development problems. It apppears to be faster than the Miracle prodiuct, loading *Quill* in 0.7 seconds.

One member using a second-hand drive with a Rebel interface ended up with a hard drive for a mere £200.

Tony Tebby demonstrated his new QL-compatible operating system for the Atrai ST. This could be of interestr to ST users who want multi-tasking, which is sadly lacking when running GEM. Anther way to multi-task on the ST is to use the Mirage OS, but this has never been particularly popular, and relatively little software is available to run under it.

Amongst other items on sale was the Minerva QDOS replacement I mentioned recently was on sale at £25 to QUANTA members, £30 to the ordinary punter. It does speed things up somewhat, and many of the bugs in various versions of QDOS have been fixed.

Some work remains to be done before the OS works 100% as intended, and buyers of the early version will get upgrades when it is finished.

Self assembly

If you have mastered *SuperBASIC* and are thinking of learning another language why not forget about C, Pascal and the other high level languages and have a go at assembly language?

While assembly language on the PC is a pain because of those dreadful Intel processors, the Motorola 68XXX family, which of course includes the 68008 used in the QL, is a real delight to program. With the GST *Macro Assembler* and a good monitor/debugger you have some extremely powerful tools, as good as if not better than those on any other machine.

The only way to learn any programming language, including assembler, is to sir down and write programs. Beginners often can't think of a suitable program, and my advice is to start with a simple routine to open a window and display characters typed into it by the keyboard. Once you gave the basic program working you can expand it into a simple text editor or a comms program.

Jez San, of *Starglider* fame, learnt to program 68000 on the QL. You might not aspire to such hights but who knows what you could achieve with a little luck and application?

Disk erasure

It's a good idea to keep your disks away from the QL's power supply – the field emitted by the transformer could partially erase them. Similarly it's not too clever to stack disks on the monitor or TV as they contain a large magnet in the tube.

Disks are sensitive to any magnetic field, and any alternating current mains device will be surrounded by a strongly fluctuating one so keep your disks well clear.

John Torofex

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BEEB BOX

Return of the OS

It's strange how some things come back to haunt you again and again. OS9 is one that just won't lay down and die, being resurrected in a different form every few years. It started life as a Unix look-alike, migrated into control technology, and found it's way into a few select microcomputers. At the moment it's red hot news, although perhaps the application is not immediately apparent from my description. If I say Interactive CD ROM on the other hand, then you might pay attention. CD-I's impending arrival in 1990 has set the games press alight, with drooling descriptions of the graphics and sound capabilities. Yet the operating system is based on OS9, and two years ago it looked as though OS9 was going to be the basis for Acorn's new range of machines. This was to be the so called "European Education Standard Microcomputer" developed in conjunction with Olivetti.

Alas it never came to be, RISC won the day and the advantages of OS9 (real multi tasking) were lost.

Close at hand

Along with Jerry Pournelle, I believe in the three foot rule. Now that's not some obscure variation on the LBW law in cricket, but a very sensible way of maintaining control over the vast amount of reference material available for the computer journalist. Put simply, "If it's more than three feet away it's no use" Another way "Keep all important books within arm's reach" If you follow these guidelines then I guarantee that you, like me will be able to access any item of information about your Beeb within 30 seconds.

Primary targets

HS software make no bones about it; they specialise in reading software for younger children. What I would call "primaryware," and very good it is too. All the programs use the Beeb's lower resolution, but more colourful modes to good effect.

Reading Patterns, one of their latest releases helps children develop the ability to understand what they are reading. Test is perhaps the operative word here, as some of the words you are asked to find are quite difficult. However on-line help is always available if you get really stuck. Careful use of the help key is advised however, as large amounts of your score can be deducted. You will be glad to learn that your highly educated scribe (BSc in a very obscure subject) posted a magnificent -11!

From a teacher's point of view, the program is simple and easy to learn, and comes complete with an ultra-simple word processor for preparing work files, so minimising time needed for preparing the lesson.

I will make just one criticism though, which is that everything locks up if a print option is selected with no printer connected.

Andrew Brown

MSX TRA

Mastering games

A Mr Ellis of Edinburgh tells me that he has recently purchased the Konami Games Master cartridge so that he can play any level on *Nemesis 3* Konami's latest mega-blast. Unfortunately, he finds that level 4 is unobtainable, and only the status line at the bottom of the screen is visible. Funny, I thought, let's try my copies, just to check. Sure enough I find that my copies also fail to display level 4, therefore I can only assume that this is either a deliberate feature, or that the Games Master has trouble accessing areas in 256K cartridges. Mr Ellis also finds that all the instructions supplied with his copy of the Games Master cartridge are in Japanese. This is NOT the case with my copy, and I suggest a call to the retailer who supplied you with the cartridge is in order. The device is difficult enough to use even with English instructions, and I'm sure you are going to miss out on some of its functions without a proper manual. I hope this puts Mr Ellis's mind at rest regarding the reliability of his Games Master, it is obviously OK.

Poke corner

A couple of tips now for the games players amongst you, firstly here is a poke for the Players game Sea King. For infinite lives type in POKE &H9927, &H18.

A tip for the Konami game Kings Valley 2, type in the password CONTINUE, and you can start from the stage you last visited. Also for this game try the password CHEATING, this gives you total immunity.

That's it for now, keep sending those tips in.

Opening hours

A few weeks ago I wrote about a soon to be opened computer store which will be selling MSX 2 computers and software. The good news is, the store is now open, and anyone wishing to see an MSX 2 in action will now have the opportunity.

The store is trading under the name of Abbeysoft, 7 Abbey Passage, Spalding, Lincs, and the telephone number is 0775 711714. At the moment the only MSX 2s in stock are the Philips twin disk drive models for about £399, but there is a probability that when MSX 2+ becomes available, they will have some to demo. Apart from the MSX computers and software, Abbeysoft will also be selling Sega consoles, and software across all formats, so you can see that fortunately they are not relying on MSX alone.

Robocopped

Anyone out there having trouble completing *Robocop*, Ocean's top selling game? I have just received a phone call from a frustrated MSXer, who finds that although he has supposedly completed stage 4 of the game, that's the stage where you have to match up a photofit picture, the game fails to recognise this fact, and he is now stuck on this level. If anyone can help please write to this column.

Keith Neal

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STREET TALK

By Rik Haynes

AS everybody's going "green" these days, it was blindingly inevitable that the software games biz would eventually get in on the action. Of course, the company that immediately springs to mind is Microprose – with its new tie-in with Greenpeace – but humbler software companies are also preparing their own environment friendly software offensives, including Inteceptor with a game based on the greenhouse effect.

Microprose's effort was officially launched a couple weeks back on the *Rainbow Warrior* (II), before this Greenpeace flagship set sail for the Pacific. Given the circumstances, most of the journos on-board were nervously listening out for anyone speaking French! As for the game, many at Microprose gave the illusion of being rather too smug about Microprose's coup over its less hip competitors, but the odd well placed phrase such as "from killing gooks to saving wales, eh?" seemed to bring them uncomfortably back down to Earth. The Interceptor release, *Debut*, is being written by Mark Davidson who first had the game idea back in 1985. Placed in control of a inhospitable planet ravaged by the effects of greenhousing, the player is charged with reversing the situation, turning the planet back into a habitable gaff.

Now, don't get me wrong, I'm all for public awareness over environmental issues (little bit of politics, my name's Rik Haynes, thank you and goodnight), but it's always amusing the way the software games industry follows trends like a mindless blind sheep. Keep watching out for Codemasters' *Radiation Ate My Hampster Simulator*, US Gold's *Out Run (the nuclear sub in your inflatable)* and Ocean's *Operation (save the) Wolf*...

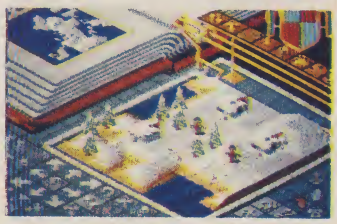
• Microillusions' *Rainbow Warrior*

TAME THE GA

More terrific games tricks'n'tactics courtesy of our *Robocop* Competition entrants (sorry tipsters, no prizes for your info this time because you already entered a competition).

"On ***Pioneer Plague*** if you recieve a fatal blow, all is not lost. Often holding down the [ESC' key during the explosion, will keep you in the game you're playing."
ADAM HOLT, *Woking, Surrey*

"Amiga ***Dragon's Lair***: To watch the game play itself all the way through, just hold down the '[ESC]', '[R]', '[/]', '[L]', '[N]' and '[7]' keys and fire, while the credits are displayed."
PAUL MOORE, *South Yorkshire*



"***Populous***: The code for the last level is KILLUSPAL."
L LEVETT, *Welling, Kent*

"***Return of the Jedi*** on ST: Get onto the hiscore table, type 'DARTH VADER'. You can now jump to the next level by pressing the '[F2]' key."
AM MANNING, *Birkenhead, Merseyside*

"The code number for ***Mike Tyson's Punch Out*** on Nintendo is 267, 853, 7588."
D PARTRIDGE, *Birmingham*

"Simultaneously hold down the '[CTRL]', '[SHIFT]' and '[X]' keys in ***Falcon*** to rearm inflight."
M DURHAM, *Southsea, Hants*

"To review missiles during operations in ***Falcon***, press the '[CTRL]' and '[Z]' keys."
RB COX, *Bishops Norton, North Gloucester*

"Archimedes ***Holed Out***: Use slice or hook when trying to get further off to the left or right of the screen than the cursor will allow."
SA COULTHURST, *Pool-in-Wharfedale, West Yorkshire*

"On Sega ***Space Harrier*** if you keep moving you will never get hit by the shots, but you can still hit solid objects."
BEN REYNOLDS, *Bath*

"Put a sock over the audio socket of your TV when playing MSX ***Yie Ar Kung Fu*** to try and stop that irritating durge called musak."
STEPHEN TRAYNOR, *Stirling, Scotland*

"Amiga ***Sword of Sodan***: Type 'RAD' into the hiscore table for infinite lives. ***Populous*** codes: 99-TIMQAZAL, 400-BADMEILL, 170-MORILAS, 490-MORASPIL, 62-SUZTT, 273-IMMEED, 34-JASTME, 438-BINEAT, 291-TIMYICK."
BARRY TAYLOR, *Bovingdon, Herts*

"On level two of ***Xenon***, blast the alien then die straight away. Now no aliens will appear on the level."
ASIF RANA, *Burnley, Lancs*

"In ***Falcon***, when palying a long eventless journey (hornets nest, bears den, etc) press the '[ESC]' key, go to the scenery menu and choose Dots Only. The reduction in on-screen graphics will make the journey pass quicker."
STEVEN TRICK, *Chorleywood, Herts*

"***Arkanoid 2***: During loading, hold down the left mouse button to see an interesting picture of Robocop."
NO NAME SUPPLIED, Abernethy, Perth

"To foul the opposition in ***Kick Off*** without conceding a free kick, run with the opposing player then just before tackling, take a wide loop and cut across the opposition at rightangles. The opposing player will go down."
M THAKORLAL, *Cricklewood, London*

"When you have Loadsapower in ***Populous***, put two volcanoes in the same place for double destruction. Also look for the monsters, these are quite rare but I've managed to capture one."
TIM JELVES, *Leicester*

"***Populous***: Lower land around castles to encourage walkers to build more settlements."
PETER GORDON, *Glasgow*

"Spectrum ***Lazer Squad***: In scenario four, the cyber hordes, to destroy the battle droid shoot from behind or use a AP75 grenade."
WILL CHINN, *Plymouth*

"***Operation Wolf***: You always get a continue play option when you die on level one, so keep playing the level until you've hardly any or no damage, and you'll start level 2 completely undamaged."
NO NAME SUPPLIED, Taunton, Somerset

"On the PC version of ***The Duel: Test Drive 2***, when starting the first section align the centre dotted line on the road so that it is slightly left of the top right of the dash board on the Ferrari F40. Don't take your foot/finger off the accelerator and you will drive straight in between the red Mercedes and white van. This should save you some valuable seconds."
DAMIEN STAFFORD, *South Harrow, Middx*

"In ***Populous***, if water is fatal, bring land down to sea level around invading evil leader and knights. Kill evil leader by swamping, thus preventing him/her and future knights becoming too strong."
J BARRETT, *Northampton, Northants*

"On the Amiga version of ***Barbarian II***, if a creature waits on the other side of a pit, go out the room, return a few seconds later and the monster will have vanished."
GRAHAM RUSTON, *Birmingham*

"In ***Operation Wolf***, on the first level kill all the men and helicopters, but leave one tank. Then as you go along, you can replenish all your ammo and health and go onto the next level with a chance."
ANDREW WALKER, *Milton Keynes*

"C64 ***Hawkeye***: Type 'VALSSPECER' on the title screen."
LEE JORDON, *Birmingham*

"When you're in possesion of the ball in ***Kick Off***, run up the field (or down!) right next to the sidelines. Then the computer will slide, giving you a throw in."
CHRIS BATES, *Chilwell, Nottingham*

"On ***New Zealand Story***, shoot everything you can so you don't miss any opportunities of upgrading your firepower."
SR FINCHAM, *Newmark, Notts*

"When in combat on ***Elite***, stop your ship completely and fix on the approaching pirate ship. You should be able to destroy it before it gets near enough to fire back."
ANDREW MASON, *Lincoln*

"***Robocop*** level 1: Duck then shoot, con-

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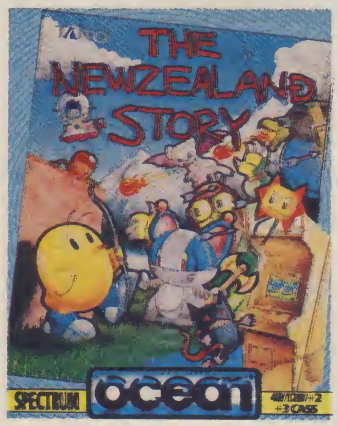
GAME

serve ammo. Second level: Just keep blasting, never mind the girl. Level 3: Same as the first level."
***SIMON MOORE**, Leeds*

"Amiga ***R-Type***: Keep firing and keep your toes crossed."
***MS HISCOCK**, Castleford*



"***New Zealand Story***: Don't steal teddy's ride until it has fired one arrow."
***CHI KWONG CHILL**, Newcastle*

"I can't get out of the jungle in ***Operation Wolf***."
***GERALD GREHAN**, Glasgow*

"Never run up with the ball in ***Speedball***."
***ADMAN ALAM**, Glasgow*

"***Millenium 2.2***: New colonies are attacked shortly after being founded. Send fighter and laser and unload them ASAP. The easiest means of combating attackers is to keep the planet in view – attackers will always appear near the planet and fly towards you for an easy kill."
***T WATKINS**, Birmingham*

"When playing ***Falcon*** and engaging enemy Migs, switch to auto-pilot to get a good lock-on on the enemy... also press the '[CTRL]' and '[X]' keys to gain a full load of AIM 9L missiles."
***MATTHEW ATTOE**, Sprowston, Norwich*

"***Gunship***: When traveling to and from targets, use the accelerated time key as this reduces the chances of being taken out before and after engaging the enemy."
***MARK WILLIAMS**, Deeside, Clwyd*

"The C64 version of ***Bionic Commando*** has a bug, when you get a powerful weapon, restart the game and the weapon will be retained for the next game."
***MICHAEL NAUGHTON**, Co Dublin*

F-16 COMBAT PILOT

From Digital Integration • Amiga version reviewed

Almost six months after the release of the ST version, *F-16 Combat Pilot* has finally landed on the Amiga...

GAME of the WEEK

GAMEPLAY • We've already extensively covered *F-16's* gameplay in our review of the ST version in *Express* 18 – suffice to say that *F-16* has amazing depth of gameplay and a very realistic feel.

GRAPHICS AND SOUND • While not as visually advanced as *Falcon's* visuals, *F-16* still manages an above average display with solid vector landscapes and a great variety of cockpit data. The sound spot-effects are rather disappointing, as is the pathetic "crash" explosion sequence – but this doesn't detract much from the overall feeling of actually "being there".

VERSION	PRICE/FORMAT	DUE OUT
Spec	Under development	
C64	Under development	
CPC	Under development	
ST	£24.95dk	Now
Amiga	£24.95dk	Now
PC	£24.95dk	Now

OTHER VERSIONS • A five-star game all the way, on both the ST and PC versions.

VERDICT ★★★★★
So which flight-sim should you buy, *Falcon* or *F-16*? It's always easy for us to just sit here and say "Easy, both!" because we don't have to fork out the cash for these games. However, if you can afford both, go for it, because with *Falcon's* graphical excellence, and *F-16's* great gameplay, you'd have the perfect combination. If you can't afford that option, we'd give *F-16* the edge at the moment, with *Falcon* more scope for the future thanks to its mission disks. But you won't be disappointed, whichever one you decide on.

"IT TOOK NINE PERSON YEARS TO WRITE!"

F-16 Combat Pilot is Digital Integration's first 16-bit originated product, and took eight people over two years (nine "person" years) to write. *F-16's* project manager, Dave Marshall, told us the most difficult parts to write were the 3D perspective generation of the multitude of objects found in the simulation.The game itself was written on each host micro, with Hisoft's *Devpac* used to develop the ST and Amiga versions. Improvements made in the Amiga version mainly lie in the areas of better colour displays and the use of digitised sound – these tweaks taking another four or five months to complete. Obviously Marshall's comments over his main competitor – Spectrum Holobyte/Mirrorsoft's *Falcon* – are slightly biased, but he firmly believes *F-16* to be "vastly superior" to *Falcon*. To qualify this statement, Marshall sites *F-16's* attention to detail and its underlying theme of total realism. The fact that real-life F-16 pilots gave Digital Integration "direct input" with background information on the plane itself, helps to add considerable weight to Marshall's claims. Unfortunately, this attention to detail means there are no cheat modes to be found in *F-16*, "We don't allow cheating, it detracts from the realism". Digital Integration's next project will be 16-bit versions of its popular eight-bit strategy flight-sim shoot-'em-up, *ATF (Advanced Tactical Fighter)*. Marshall allays fears over just another 16-bit port by saying "the game has changed beyond recognition" with solid 3D terrains and graphics which are "just superb". You'll be able to judge for yourself when it's released next February on ST, Amiga and PC.

DIGITAL INTEGRATION SOFTOGRAPHY
Digital Integration was formed back in 1982, and since that time has concentrated on creating very popular simulation games for a wide variety of micros, from the ZX81 to the Amiga.
FIGHTER PILOT • 1982 • Spectrum, C64, CPC, Atari eight-bit, ZX81
Flight-sim, the original ZX81 version just had a numeric read-out for flight info.
NIGHT GUNNER • 1982 • Spectrum, CPC, ZX81
One of the early Spectrum games which really helped put the Speccie on the gameplaying map.
TOMAHAWK • 1985 • Spectrum, C64, CPC, PC, Atari 8-bit, PCW
Helicopter flight-sim, Digital Integrations first 16-bit release, although it was just a straight conversion.
TT RACER • 1986 • Spectrum, CPC
Digital Integration's first departure from a flight-sim.
BOBSLEIGH • 1987 • Spectrum, CPC, C64
"An attempt to get away from planes and bikes."
ATF • 1988 • Spectrum, C64, CPC
A combination of flight-sim, strategy game and shoot'-em-up based on a futuristic aircraft.

MINI-REVIEW

ROCKET RANGER ★★

Cinemaware/Mirrorsoft • ST • £24.99dk • Also on C64, ST, Amiga, PC

Cinemaware's multi-disk extravaganza looks good on the ST but suffers from incredibly tedious and prolonged disk access and limited action sequences. The graphics and sound consist of slow and jerky animation, with a nice enough soundtrack. The sound FX are basic but functional. Probably the worst aspect of ST *Rocket Ranger* is the 3.5 minute wait when you start the game before actually doing anything!

• *Rocket Ranger*: worth the wait

Our favourite five games released in the last two months.

HIT LIST TOP 5 GAMES

1. KICK OFF
Anco • C64, ST, Amiga
Fast, furious and very addictive football-sim.

2. NEW ZEALAND STORY
Ocean • Spectrum, C64, CPC, ST, Amiga
Cute and playable Japanese coin-op conversion.

3. CARRIER COMMAND
Rainbird • Spectrum, ST, Amiga
Strategy and shooting.

4. STARGLIDER II
Rainbird • Spectrum, ST, Amiga
High-end shoot-'em-up.

5. RICK DANGEROUS
Firebird • Spectrum, C64, CPC, ST, Amiga
Adventurous underground platform puzzler.

ONE-LINERS • ONE-LINERS

• Artronic has just tied up another Omintrend licence, *Universe III* is a "cult sci-fi role-playing game" which should be out on ST, Amiga and PC at the beginning of October.

• Budget blasters will be able to play Softek's coin-op conversions, *Alien Syndrome* and *Soldier of Light* for £2.99 (Spectrum, C64, CPC) and £9.99 (ST, Amiga).

• Prism Leisure is currently working on the follow up to *Krystal*, its epic fantasy adventure, *Aquanaut* is due in October on ST and Amiga.

• C64 and PC gamesters can look forward to playing Interceptor/Pandora's popular role-player *Galdregon's Domain* next month.

• If the new footie-season isn't exciting enough for you, perhaps you should try Gremlin's *Footballer of the Year* sequel, imaginatively called *FOTY II*, out next month on Spectrum, C64, CPC and ST.

• *Take'em Out* is a shooting-gallery type shoot-'em-up due for ST and Amiga release in November. It's publisher, Artronic has dubbed the game "Blood, guts and bullets."

• Accolade is preparing a Mac-attack with the release of *Test Drive II*, *Jack Nicklaus Golf* and *Fast Break* on this distinguished DTP deck, between now and early November.

• Could you manage that boxing berserker Mike Tyson? Well, you'll be able to find out with Goliath Games' new boxing management simulation, scheduled for release on Spectrum, C64, CPC, ST and Amiga next month.

• As well as updating its successful *Virus-Busting* software, CRL has also launched a new fantasy/arcade game called *Tower of Light*, which is available on Spectrum, CPC and even the humble old PCW.

FIRST PEEK

• **An exclusive look at Superior Software's latest BBC/Electron release, *Superior Soccer*. Unexpectedly(!) a soccer simulation, *SS* is a mixture of both management sim and arcade soccer action. *SS* has been programmed by Peter Scott, the man responsible for the BBC conversions of *Barbarian*, *Predator* and *Last Ninja* – so it should be a result, Brian. *Superior Soccer* is available now and kicks out on BBC (£9.95cs, £11.95 5.25-inch dk, £14.95 3.5-inch dk and Electron (£9.95cs).**

Play back

YOUR views on the latest software – call 0225 444439

"How dare you release your magazine without any trivial, childish, crap about The Bitmap Brothers. We're issuing a court order stopping all further sales of your mag until you print at least three snippets of Bitmapslagatrivia. PS You'll receive your review copy of *Xenon II* in two years."
The Bitmap (Bigmac) Brothers, London

"Steven Dunn's game (Spectrum *Starglider II*) is an example of programming genius. It beats *Carrier Command* into the ground and captures all the flow of the 16-bit versions. Like you said in your review Well Dunn!"
Lee Davy, Barnstable

"I agree with Stephen Dunn's comments on *Starglider II*. It's the best Spectrum game out."
No name or address supplied

"Why don't you review budget games?"
Mark, Middlesex

"When will *Stealth Fighter* be out on the Amiga?"
Julian Smith, Sheffield

"Please let people know that PC *Robocop* is a complete waste of £20. When will PC *Populous* be out? I can't just use the PC for serious things all the time, can I!"
Andrea Nor, Cheltenham

"I think I'm going mad!"
The Plunger, no address supplied

"Why can't games reviewers represent the reader?"
Ian Harling, Bristol

"I'd like to complain about *Silkworm*. After my first three goes I completed it – that's pretty stupid. I also agree with Tom Black's comments about *Robocop* ... it's boring."
Colin Dowle, Aldershot

"I would like to warn fellow Spectrum owners about a new scourge that's sweeping through the budget market... called Codemasters. I've bought three of its games(!?) in the past three months, and they've all been consistently bad."
Michael Kirk, Stevenage, Herts

"Anybody know where I can buy games in Scotland?"
Stephen Traynor, Stirling, Scotland
• *Can you help? And don't say the Barrowland's in Glasgow (see* Express *40 to see what we mean)...*

"Don't buy the *Great Space Race* on the C64!"
Mike Ray, Milton Keynes

"Is *Robocop* available on the Amiga yet? I've tried to get it for four months! Thanks for *Kick Off* Anco, it's a great game!"
Darren Smith, Doncaster, South Yorks
• *Yes. Bad Luck. Yes*

"Ha, ha, ha to all of the half-meg commies who cannot play *Dungeon Master*."
Dave Palmer, South Tyneside

"MSX *Le Mans* is a terrific piece of software."
John Hellier, London

"Call me old fashioned, call me a boring old fart, but please restore the old games section."
Neil Barnes, Birmingham
• *You boring old fart...*

"Is there a cheat mode on Amiga *Robocop*?"
Craig Thornton, Nettleham, Lincoln

"Is either *Golden Axe* or *Narc* being converted to home micro format, an have you any info on *Powerdrift*, *Outrun*, *World Soccer* or *Shinobi* on the Sega Mega Drive?"
Phil Dewhurst, Bishops Stortford, Herts

"*Kick Off* may be totally bug-ridden, but half the fun comes from discovering new ones."
Phil Dewhurst (again!)

Are you **delighted** or **disgusted** with your latest games purchase? Get **your opinion** into print within **seven days**! Just call our **24-hour hotline on 0225 444439** ready to speak your mind. Or write on a post-card or the back of an envelope (in less than 50 words) to **Playback, New Computer Express, 4 Queen Street, Bath BA1 1EJ** or fax us on 0225 446019.

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The best tips win a freebie – so don't forget to tell us your address and machine

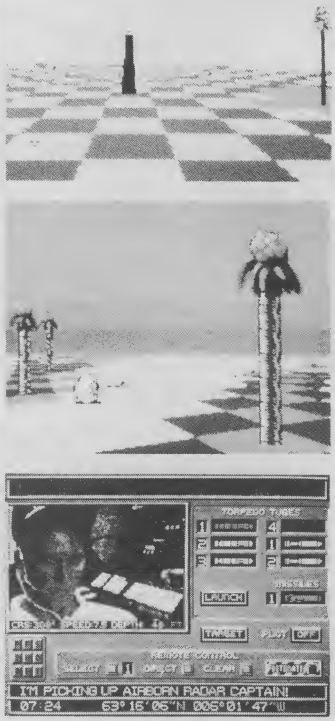
HELP!
Screening

I am about to buy an IBM-PC compatible computer and I've decided that what I want is something with a 20Mb hard drive and a reasonable display. And it is with the latter that I am becoming confused. Every time I visit a computer shop the sales people tell me about CGA, EGA, Hercules etc., but I'm still none the wiser. As I've been reading your column for some time now and you seem to have a firm grasp of the computer world *(and my wallet – Uncle TT)* could you please explain to me the different screen displays and resolutions available for the PC. Thank you in advance.
O. Sitwell, Fugueston, Leicestershire.

• One of the very nicest things about the IBM-PC and compatibles is that it has an open architecture. You're positively encouraged to open the machine up and poke about in its insides. Unfortunately, this can lead to a lot of confusion as you try to decide just what it is you want to put in the computer. Probably the most obscure of the add-on bits and pieces are the various display standards – but take heart. They're like everything else associated with computing. Once you've received a simple explanation it really is very easy to get to grips with! Are you sitting comfortably? Then Uncle Techtip will be begin.

The first of the PC displays is known as MDA. This is the standard display format that every machine can handle. It consists of either 40 x 25 or 80 x 25 characters (i.e. no graphics) displayed in mono. To improve on this third-party supplier Hercules launched its Hercules card which provides the same character standards with added 720 x 348 graphics screen. This display was also in mono. In order to achieve colour CGA was devised. CGA stands for Colour Graphics Adapter. A CGA card provides 40 x 25 and 80 x 25 text in mono and up to 16 colours, as well as 320 x 200 pixels (pixel means PIcture (X) ELement i.e. one addressable point on-screen) in mono and 4 to 16 colours, and a higher resolution of 640 x 200 pixels in mono only.

EGA (or Enhanced Graphics Adaptor) is becoming one of the most popular standards (as prices continue to decrease). The standard offers between 40 x 25 and 80 x 43 text pixels in up to 64 colours and between 320 x 200 and 640 x 350 graphics pixels in up to 64 colours and a high resolution 720 x 348 in mono only.



• Screen options: CGA (top), EGA, and VGA (bottom)

Top of the range – as far as most pockets are concerned – is VGA, offering text screens of between 40 x 25 and 132 x 43 in up to 16 colours, graphics screens of 320 x 200 in 256 colours, 320 x 200 to 640 x 348 in 16 colours and a high resolution of 720 x 348 in mono only.

Phew! Big explanation but easy to understand, right? There are other display standards which go beyond VGA but cost so much that they're not really suited to the average user (whoever s/he may be!). There are also various emulators which try to make one kind of display behave like another. They operate with varying degrees of success and best used only extreme circumstances or for very short periods of time.

TIP
Menage à deux

Two tips for the Spectrum 128K owners: *(1. take a mallet to the machine and 2. reduce it to a mangled wreck – Uncle Techtip).*

1. On the +2A or +3, if you enter 48K BASIC by typing Spectrum you can re-enter +3 BASIC by typing Randomise usr 23354. This won't work if you use any printer functions (LLIST/LPRINT/COPY), or got to 48K BASIC from the startup menu.

2. The +3 BASIC editor colours can be very hard on the eyes so the listing on this page will change it to cyan on black which is very easy to live with. You'll have to re-run it every time you NEW, so save it to RAM disk first by SAVE! "edcol" or something similar. It'll work on all four 128K machines.
No name supplied, N.Ireland.

HELP!
Spectrum transfer

I wrote to you a month and a half ago about my problems with transferring data from a Spectrum to an ST. In your column you advised me then on the cable connections and the comms program settings on the ST. You also told me to get a Spectrum comms package that supports Xmodem. The problem however, is that I have never seen any ads for such a program on the Spectrum. Could you possibly print a request for such a program in your column, or better still, ask people who already have done a similar data transfer to contact me? Thanks.
Thierry Kumps, Overijse, Belgium.

• You heard the guy, Spectrum-owning techtippers – get writing!

HELP!
XLent

I bought an Atari 800XL and 1050 drive from a computer auction recently. The computer seems to function well enough, but when I attempt to load any software from disk I get the error message "error 130". The computer and drive are connected by the appropriate cable and the drive power light comes on when the power unit is connected; can you shed any light on this?

Also is there any way that I can connect the drive to my PCW8512 so that I can transfer ASCII files to the IBM PS/2 I use at work?
K. D. Partner, Farnborough, Hants.

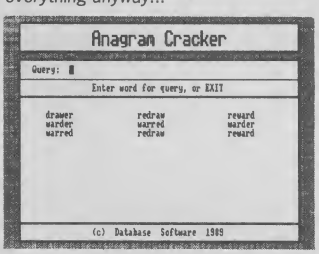
• 1. Error 130 is a device problem. Inside the 1050 there are pressure➤

BUG OF THE WEEK

Question: How do you use the anagram checker on *Mini Office Professional Plus* for the PCW quickly?

Answer: Read half the solutions . The checker produces two answers for each word - and I thought only the BBC did repeats.
Brian Smith, Plymouth, Devon.

Whaddaya complaining about? PCW owners have to be told twice about everything anyway...



• *Mini Office Professional* repeating itself itself repeating *Professional Office Mini*

• Wysii wyga
Inhabits desktop publishing systems, lying dormant until deadlines are approaching. Particularly fond of unsaved pages

```
10 BORDER 0:LET attrib=5
20 FOR a=32768 TO 32792:READ b:POKE a,b:NEXT a
30 RANDOMIZE USR 32768
40 DATA 243,62,23,1,253,127,237,121,62,attrib,50,17,236,50,
15,236,62,16,1,253,127,237,121,251,201
```

• Program to reset Speccy colours

pads which hold the floppy disk against the read/write head. After much use, these become weak and fail to do their job. You could attempt a repair by – carefully – opening the case of the drive and 'roughing up' the pads, but a better alternative might be to have a rummage in the *Express* classifieds for a suitable computer repair centre which should be able to rectify the problem quite easily.

2. The Atari 1050 drive contains a large amount of specialised circuitry in order that it can be used with the eight-bit machines. Consequently, there is no way you can connect the drive to your PCW8512. If you want to transfer ASCII files buy a 3.5-inch drive suitable for connection to the Joyce (Have a rummage in *Express*' sister publication *8000 Plus* for advertisers), or connect the two machines using a serial cable and comms software. If it is your intention to adopt the latter course of action write to me again for details of the connection procedure *(oohh, I'm just so accommodating – Uncle Techtip).*

HELP!
Scotch soft

Has anyone made a game based on the film Highlander with Sean Connery? Also, has anyone made a game based on Billy Connolly? Last of all, a silent plea to software and hardware producers. You've made vidi-digitisers for the Spectrum, Amiga, ST, CPC464/664, PCW, IBM-PC and probably the ZX81! But you haven't made one for the C64, stupid!
Joe O'Brien, Hay Mills, Birmingham.

• Our resident games expert Rik Haynes tells me that Ocean produced a silicon rendition of the movie Highlander – it's probably still available in budget compilation format. To Rik's – admittedly minuscule – knowledge there's never been a game based on the 'Big Yin' (as I believe he's popularly known).

There used to be a Dutch imported vidi-digitiser available which has disappeared from view of late. Maybe if you place an ad in the breath-takingly cheap (free, actually) *Express* classified section you'll be able to purchase one second-hand.

TIP
(Another) Amiga bug?

I have discovered a fault with my system. The said system is an Amiga 500 plus memory upgrade, a Philips CM8833, a Star LC10 colour printer and an external drive. The latter is where the problem arose. The drive would work perfectly then for no apparent reason it would fail to format, save and occasionally read disks, the Amiga reporting that the disk was either not a DOS disk or had a bad sector header or had been changed. First thing I did was to check for viruses, nothing. Then I sent the drive back to the shop and they sent me a new one. The same things continued to happen so I unplugged everything to my system but the bare essentials and booted up – not an error report in sight and the drive worked brilliantly. I added things one by one until I traced the fault to my printer. With some experimentation I found that if the system was booted up or the printer switched off while still running the computer, the disk drive would fail.

So. If you have a printer connected switch it on before everything else, that way, your external drive will continue to work.
Andy Bennet, Chesterfield, Derbyshire.

• Gosh! That was an interesting tale of woe, Andy.

• A second drive for the ST can be 5.25-inch too

HELP!
Spare rib

After reading the auction feature in *Express* (issue 30), I visited a local church hall where an auction was taking place. At the end of the day I had bought several items including a Coleco Adam computer for the remarkable sum of £7.50 *(remarkable only for being so expensive – Uncle Techtip).* I received several items of software with this machine but unfortunately, no manuals. I wonder if you could tell me if there is a user group which covers the Adam? If so, could you please print the address in your column?
J. Lambton, Guisely, Yorks.

• Against all the odds I've managed to locate a group which supports the Coleco Adam. Contact Keith Marner, UKAS, 33 Homer Road, Croydon CR0 7SB.

HELP!
ST Drive

I've recently bought Power Computing's *PC Ditto* program which is really very good. It runs all of the software I have on 3.5-inch format, but I would now like to make use of the large amount of software on 5.25-inch format. Can you tell me if it is possible to connect a 5.25 drive to the ST and if so, how? I'm afraid I have a very limited knowledge of electronics so I wouldn't really want to open up the Atari ST or make any leads or anything.
Susan Arkwright, Warley, Yorks.

• It is possible to connect 5.25 inch disk drives to the Atari ST. In fact, you can use exactly the same drives that the IBM-PC and its many compatibles uses. Have a rummage through the advertisers in *PC Plus* for a suitable drive, alternatively visit an auction. It's usually possible to buy second hand 5.25 inch drives at auction for under £15, although you'd have to determine the connections and construct a lead. If you want to buy a drive complete with cable ready for connection to the ST, contact Cumana on 0483 503121 who should be able to satisfy your requirements.

TIP
Positive identification

In issue 40 of *Express* in Tech Tips, Mr Geoff Winkles of Leicester was enquiring about a *Quazitron* program for the Spectrum. I think he means *Quazatron* which was issued by Hewson in mid 1986, however apart from Hewsons I don't know of a supplier *(Contact Hewson on 0235 832939 – Uncle Techtip).* Hope this is of help.
I. Tapping (is this for real?), *Great Yarmouth, Norfolk.*

HELP!
Dirty head

I have owned an Atari ST since last year and I would like to know if my drive head needs cleaning. From what I have heard in the past the disk drive head cleaners do more harm than good as they dis-align the drives. All help would be extremely appreciated.
Yauwai Tsang, Slough, Berkshire.

• Although proprietary 'abrasive' drive head cleaners are advertised as being relatively innocuous, I would hesitate to use one with my PC or ST. The best kind of cleaner is the 'moist' variety (similar to those available for cassette players) which uses felt pads and a liquid solvent to remove accumulated dirt. Pay a visit to your local computer consumables shop wherein you'll find a suitable cleaner.

HELP!
Eternal triangle

I've got three questions for you:

1. I have a 101-key IBM keyboard. Is there any way of connecting it to an ST?

2. Could you tell me a Mac emulator that will also run Mac software as well? *(Whaaattt? – Uncle TT)*

3. How much is the Citizen Swift 24 and is it compatible with the Atari ST?
G. Chan, Kingston-upon-Thames, Surrey.

• 1. The key coding matrix inside the 101 is vastly different from that of the ST. I hate the keyboard of the ST too but I'm afraid that for now, we're stuck with it.

2. *The* Mac emulator for the Atari ST is the *Spectre 128* distributed in this country by well-known language producer HiSoft. The *Spectre* will run all well-behaved Mac software faster than the Mac and with an increased screen size. You can even make use of a hard drive to store and boot the Mac software. For further details contact HiSoft on 0525 718181.

3. The Citizen Swift printer costs £447. Wanna hear about the accessories? Colour kit costs £44, font card £40, automatic sheet feeder £97, manual sheet £46, serial interface £29, printer stand £26, ribbons: black £4, coloured £17. Oh and yes, the Swift is fully compatible with the ST.

TIP!
Dead sea rolls

Enclosed is a photostat copy of the manual for a Serial 8056 Compact printer that I happen to have lying around. I hope you can pass it on.

Also a little tip for the printer: The rolls of paper are hard to find but Brother thermal printer paper, although ever so slightly smaller, can be made to fit if you add a bit to the core of the roll. (I think a user will know what I mean!).

An Amiga (my computer) tip: If you have one drive and use CLI then get Workbench 1.3! The shell is wondorous and you can hold all of those C commands you use so much (DIR CD, WHY) in memory to use on any disk by using the RESIDENT command.
Tony Guyon, Stanford-le-Hope, Essex.

HELP!
Sharp operator

A couple of years ago, I asked my local computer shop to provide me with a printer to go with my Sharp MZ80K. They came up with a Shinwa Peripheral CP-80 printer. It did not interface at all well with the Sharp. It did not print in any of the modes it was capable of. I complained to the shop a few times then let it drop. Later I acquired a Sanyo 555 *(from bad to worse? - Uncle Techtip)*, the printer hardly worked at all with the Sanyo. I am now thinking of buying an Atari ST. Will I be able to get a printer lead that will be compatible with both the Shinwa and the Atari?
J. V. Manley, Banbury, Oxon.

• I'm afraid I'm at rather a loss to understand what it is you're talking about.'...did not interface...did not print in any of the modes it was capable'. What do you mean, the printer didn't work or you were unable to figure out the necessary control codes to get it to do what you wanted? If the former, then you should have returned it to the store from whence it came and demanded a refund (too late for that now). If the latter, then I suggest you apply yourself to the manual supplied with the machine wherein you'll discover a veritable Aladdin's cave of useful information detailing your printer's workings.

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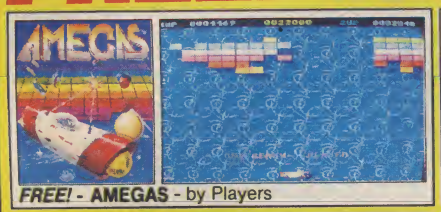

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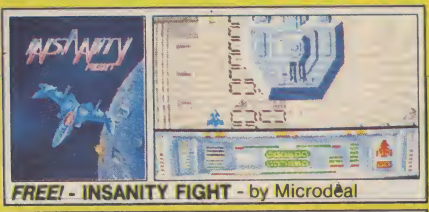

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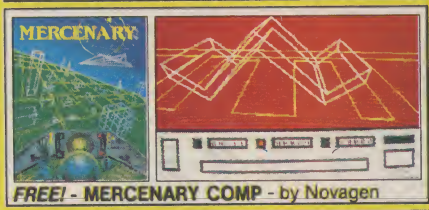

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10 Gamesweek
Extraordinarily bad weekly which took a good deal of pleasure in slagging good ol' *Express* off. Until of course it met with an untimely death (Haw Haw).
20 Personal Computer Games
Multi-format monthly which was closed down because the publisher (VNU) wasn't making much dosh out of it. Most of its writers are still floating around.
30 Personal Computer News
Sister paper to *PCG*.
40 Home Computing Weekly
No-one can remember much about this one except that it once existed.
50 Bang
Embarassing newspaper-style weekly launched in the mid-eighties. The plug was pulled after nine weeks.
60 Amtix!
Bright games mag for the CPC which dropped out early.
70 Your Computer
Once it stood head and shoulders above the rest. Not any more.
80 ST Update
Slipped quietly into the already crammed ST sectors, and then slipped quietly out again.
90 Big K
No Special K here. All formats title designed to rival *C&VG*. It didn't.
100 The Bug
Closed down while the editors pursued academic honours.

10 worst ad campaigns

10 Psycho-Pigs UXB
Two adolescent chumps ogling over a girl
20 Sinclair QL
Showing a grown man jumping over a line of computers in a park
30 Barbarian
The he-man couldn't compete with the undoubted charms of Maria 'dead heat in a Zeppellin race' Whittaker.
40 Microstyle
A bike-girlie hangs onto a teenage rebel without a pause.
50 Microstatus
A couple of Great Gatsby clones stood by a cream limo
60 Amiga TV advert
Digital Pictures' animated extravaganza. Commodore forgot to tell us the Amiga wouldn't be capable of running even half a second of the graphics.
70 Ingrid's Back
Possibly the most revolting ad in the entire history of computer games.
80 Sagesoft secretary ad
Grossly sexist ad stating that the business program was "so simple that even she will understand it"
90 Chuckie Egg
A throw back to the dire days of the mid-eighties amateur advertising
100 Commodore 64 Elephant TV
Slammed for exploiting animals in the days when animal libbers weren't even heard of.

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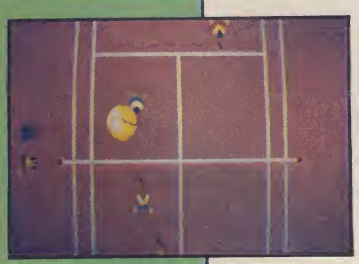

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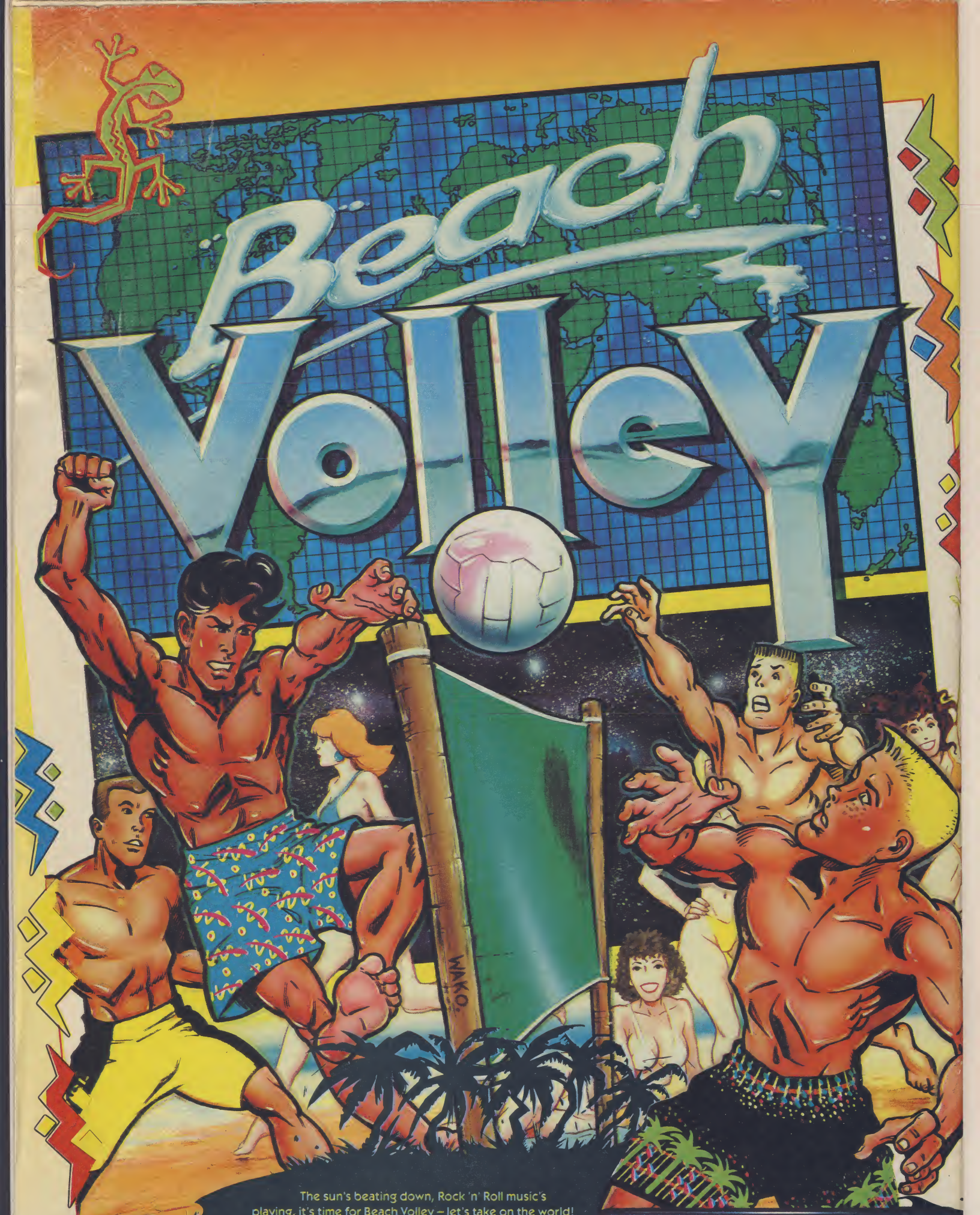

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